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ABSTRACT

This document, developed by the Organization for Economic Co-operation and Development (OECD), concerns the training, recruitment, and utilization of teachers in primary and secondary education. Following an introductory section, this report is divided into three parts: The characteristics and shortcomings of teacher supply (1950-65), teacher recruitment and utilization policy, and the change in teacher training standards. Part one covers the main factors affecting the demand for teachers, teacher supply, the characteristics and measurement of scarcity, specific consequences of recruitment difficulties, international developments, and the role of the teaching profession in the development and utilization of highly skilled manpower. The second part develops the recruitment of and sources for recruitment of teachers, teacher status and recruitment, and the utilization of teachers and the improvement of teaching efficiency. The third part concerns new principles guiding training programs and trends in standards of initial training for primary, general secondary, and technical education teachers as well as continuing professional training. General conclusions, outlining the framework of a recruitment policy for teaching staff, are presented. (MJM)

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TRAINING, RECRUITMENT AND UTILIZATION OF TEACHERS IN PRIMARY AND SECONDARY EDUCATION

U.S. DEPARTMENT OF HEALTH,
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PREFACE

This study is concerned with primary and secondary teachers(1). Its objective is to make available to the Member countries a range of information on teacher resources and on the main trends manifest in the issues studied.

This Report was first conceived when OECD became involved in the preparation of other reports describing the structural changes to which educational systems were subject(2). It was designed to analyse the past, present and possible future relationships between the demand for and the supply of teachers and to indicate some of the solutions adopted by the different national authorities.

Perhaps to a greater extent than previously, this OECD Study has assumed both a quantitative and a qualitative character. Whenever possible, the relationship between quantitative and qualitative aspects has been emphasised in order to illustrate that national education policies can only be logically formulated if the problems of teacher supply and demand and of teacher training, recruitment and utilization are considered together.

In this instance previous experience is deceptive. Although one has always been able to find a teacher to face the pupils, the striking growth in the demand for teachers has only occasionally brought about changes in teacher utilization. Looking ahead, however, the far-reaching reforms which are transforming or eventually must transform the educational systems of the Member countries must modify the role and function of the teacher. The latter, to an increasing extent, will assume another identity one aspect of which, one hopes, will entail a growth of teaching efficiency. Of necessity these changes are going to rebound on the initial and recurrent training of those involved to such an extent that the teachers' career profile must rapidly become a subject for research and for bold, policy decisions. The description in this report of the actual teacher situation, in comparison with the awaited innovations which are summarised on a world wide scale in the introduction, indicates that there is still a great deal to be done.

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(1) It will be possible to obtain a complete picture of the quantitative growth of the teaching body, from a report on the Quantitative Trends in Teaching Staff in Higher Education which, in addition, will be published in 1971 in the series "Study on Teachers".

(2) see, for example: Development of Secondary Education, Trends and Implications, OECD, Paris, 1969.

The complexity of this subject necessitated, for the first time, the preparation of a study of this type. In the first place national reports were prepared for half of the Member countries, with close collaboration with the national authorities involved. These national studies and the statistics covering additional countries, have proved to be a valuable source of information as much for the preparation of this Report as for the countries concerned. These national studies have been published by the Organisation grouped together in seven volumes under the title "Study on Teachers".

The report, published under the authority of the Secretary-General, was prepared within the Programme of the Committee for Scientific and Technical Personnel(1). The preparation and editing of the study was the responsibility of Mr. Pierre Laderrière. The Secretariat had invited experts to express their opinion on the contents of the report and wishes to express its appreciation to their Chairman, Mr. Yves Brunswick, who kindly re-read the manuscript before its publication.

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(1) The Committee for Scientific and Technical Personnel was replaced, in July 1970, by the Education Committee.

SUMMARY

THE MAIN TRENDS AND THEIR POLICY IMPLICATIONS

The profound changes which affect education both quantitatively and qualitatively in Member countries, and the very size of expenditure on personnel, call for a system which is efficient and open to the innovations for whose extension the teacher will be mainly responsible. The change in the latter's role brought about by this development is now causing forecasts in this field to examine the close links between training, recruitment and utilization, i.e., by placing problems of demand and supply in a strictly qualitative setting.

The account which follows is not intended simply to summarise the Report. It attempts, on the basis of all the documents available and of information concerning the work in progress on this subject, to evaluate the policies of Member countries by confronting them with the new targets which their educational systems are trying to achieve.

I. Difficulties of Equilibrium between Supply and Demand

From 1950 to 1965, the effort made in Member countries to recruit teachers was enormous as the table below shows. The increase in the number of secondary school teachers would be higher if technical education were included in the figures. For the same period, moreover, governments also had to recruit teachers to expand pre-school, special, further and adult education. The factors underlying this problem are as follows:

Examples of the growth in teaching staff for primary and secondary general education between 1950 and 1965

(Percentages)

Country	Primary	General secondary
Austria	2	59
France	35	152
Japan	13	31
Iceland	66	210
Luxembourg	24	83
Northern Ireland	13	251
Norway	42	149
Portugal	76	134
Scotland	19	55
Turkey	135	224
United Kingdom (England and Wales)	16	80
United States	68	125

Source: Tables 35 and 36 of the Report.

1. Demand

The increase in teacher demand from 1950 to 1965 was due mainly to the simultaneous effect of several factors:

(a) the growth in importance of demographic factors:

- increase in the age-groups affected by primary and secondary education: from 1950 to 1965 the age-group corresponding to primary education increased by about 3/4 in Canada and Iceland, between 1/4 and 1/3 in Spain, Luxembourg, the Netherlands and Switzerland; the age-group corresponding to secondary education went up by about 3/4 in Canada, the increase in the United States was not far off (68 per cent); Iceland, Luxembourg, the Netherlands, Sweden and Switzerland for the same period recorded increases of 40 to 50 per cent;

- internal migration from rural to urban areas and town centres to suburbs;

(b) various institutional measures to enforce compulsory education (Mediterranean Members of O.E.C.D. in particular) and extend compulsory education (up to nine years in the most developed O.E.C.D. countries);

(c) sweeping changes in the structure and content of education particularly at the secondary level which had already experienced a very independent growth due to the social demand for education.

The trend in the number of pupils has resulted in a much larger demand for teachers in secondary than in primary education for the 15 years under consideration, as the figures above show. For an equal number of pupils, secondary education tends to be a bigger "consumer" of teachers than primary education. The considerable growth in teacher demand coincided with a more or less diminishing supply, at one time or another, as a result of the particular circumstances of each Member country.

2. Supply

Teacher supply, particularly for the first half of the period in question, was hampered for several reasons:

(a) teachers were recruited from the smaller pre-war age-groups; changes in marriage and birth rates affected the female staff departure rate at the same time that attempts were being made to increase their numbers;

(b) the unreliability of the statistics on teacher stock and flows; the almost total absence of reliable forecasting machinery or of educational development planning; and the non-existence of systematic research on educational development are also factors which hamper supply;

(c) in this last context the difference has increased between the actual and theoretical time required to graduate, particularly in independent universities which pay little attention to the real needs of secondary education and has strengthened the very machinery which prevents the supply of qualified teachers from immediately meeting a demand caused in part by a "demographic wave" moving through the whole educational system;

(d) lack of financial resources has had various consequences in different countries:

- the number of places in training institutes has not always managed to keep pace with the growing number of candidates;

- the number of established posts required were not always created;

- working conditions have deteriorated due to lack of auxiliary staff, space and equipment;

- salaries have not risen sufficiently to attract and keep teachers in the profession;

- generally speaking, the way in which education is organised has itself not helped to improve teaching career possibilities.

The rate at which newly qualified teachers enter the profession must therefore be known, given the total effect of these various factors and the result of women entering the teaching force. In the United States in 1965, 81 per cent of primary school teachers and 66 per cent of secondary school teachers entered the profession the year they qualified. In England and Wales 16.4 per cent of female and 4 per cent of male certificated teachers are lost during the first year after they leave the university; in the Netherlands the rate is 10 per cent for primary education; in Greece 17 per cent of the vacancies offered in 1963 in primary education and 27 per cent in secondary education (from 1960 to 1965) were turned down. The annual rate of those who leave the profession is also a basic element for a serious forecast of demand: recently, for example, there were 10 per cent in England and Wales (men 6 per cent, women 13 per cent), 8.5 per cent to 15 per cent in Canada according to province, and 17 per cent in the United States in primary education. A more exact forecast of these rates should, of course, be broken down by sex.

The measures taken by the responsible authorities must be seen in the light of these main factors affecting teacher supply and demand.

3. Replies from Official Bodies

To meet the challenge, school authorities rapidly took steps to retain their staff in much the same way as do other branches of activity when faced with a manpower shortage:

(a) existing teaching staff was used more intensively:

- by increasing overtime (in some subjects overtime represented more than a quarter of the full-time demand for teacher-hours) and by offering teachers of retiring age the possibility of staying on;

- by changing the pupil/class ratio. In primary education, where available statistics are significant, this ratio deteriorated between 1950 and 1955; with very few exceptions it subsequently improved;

(b) teachers considered to be uncertificated according to national regulations were recruited:

- either because people without all the officially required certificates had to be used; although there was an improvement towards 1960. By 1965 six of the countries studied still had between 10 and 15 per cent uncertificated teachers in primary education, and in a great many countries for secondary education the figure varied between a quarter and a fifth in general subjects and sometimes reached a third in technical subjects;

- and/or by assigning special-subject teachers to teach another subject - up to a third of the teaching of some subjects was done in this way.

The various palliatives adopted by the national authorities were as many indications of the teacher shortage. The different statistics show that in general this shortage has always been more acute in secondary than in primary education.

The opinion expressed earlier by O.E.C.D. concerning the situation by subject and the need to improve recruitment of teachers of mathematics, scientific and technical subjects has not yet apparently had much effect. Between one-fifth and one-third (sometimes more) of these teachers were considered to be uncertificated about 1965. But the continuing difficulty in recruiting teachers of scientific and technical subjects should not obscure the fact that the number of uncertificated teachers and the amount of overtime had increased in basic subjects such as languages (mother tongue and foreign), and in arts subjects.

Fairly systematically the official bodies have tried to compete with other branches of activity to attract the necessary staff into teaching:

(a) by using modern methods of publicity, by offering financial incentives sometimes leading to the pre-recruitment of student-teachers, by salary improvements, particularly at the beginning of a career and, to a lesser extent, by offering better possibilities of promotion through the creation of new positions (head or assistant-head of departments, more directorial and educational advisory posts, etc.);

(b) by trying to spread and diversify traditional recruiting sources, particularly by making greater use of women, harmonizing service duties and increasing part-time work;

(c) by modifying the length and level of courses in teacher training institutes: it is only since 1966-67 (except in England, Wales and Luxembourg, 1960, Yugoslavia in the following years) that training for primary (and sometimes lower secondary) school teachers has been extended and, at the same time included in higher education; this has enabled an organic relationship to develop with university-type education which formerly existed in very few countries; a similar trend can be traced for teachers in technical education, while the authorities have increasingly demanded pedagogical training, following more comprehensive specialized studies, for teachers in general secondary education; these changes, increasing the prestige and therefore the recruitment of newly-certificated teachers, have also paved the way to alterations in the content itself of initial training.

The conjunction of larger numbers graduating each year from further education, and the above measures for improving recruitment are gradually easing the situation. Forecasts of future recruitment difficulties mentioned in some national monographs (e.g. England/Wales, France and Sweden) no longer seem to be borne out. According to the country and type of education, the disequilibrium between supply and demand tends to disappear. Some imbalance however persists, and a number of governments are worried about shortcomings in the efficiency of their educational systems in view of the principles stated in reforms and the growing cost of improving the quality of education. Only the quantitative aspect of reform seems to have been considered, and planning almost invariably refers to a more than proportional increase in the number of teachers as compared to pupils.

An examination of past, present and possible future imbalances between teacher supply and demand has no real interest unless it is seen in the more general context of sweeping changes made or to be made to the educational system. These changes imply recruiting teachers who must satisfy different criteria from those in the traditional, élite-orientated system in order to fulfil the new functions competently and dynamically and thus help the educational system to function more efficiently. It is only within this context that it will be possible to judge whether the effort and policy orientation of many Member countries have really answered the actual problems posed.

II. Qualitative Aspects of the "Training, Recruitment and Utilization" Relationship, and Education in the Past

1. New Education

Although not always explicitly expressed in these terms by the governments concerned, the role of education in the second half of the 20th century is to give individuals a wider personal independence throughout their life, enabling them to understand their environment, to communicate with and master it. The tendency is therefore to go from the education provided at school - which may or may not be linked with other educative structures (family, socio-cultural organisations, business firms, etc.) - to a complete and continuing training of Man intellectually, emotionally and physically. This education will be increasingly obtained by means of a range of training activities which no longer occur in the classroom alone. For a long time now the progress of "the parallel school" in the framework of the developing mass media, the maintenance of some degree of family influence and the development of the training side of professional life have been undermining the school's monopoly of the dissemination of knowledge, a monopoly which it generally considered to be its right.

The conclusions to be drawn from this trend are particularly important.

In the first place, potential training resources exist in society outside the school as it is presently conceived. By neglecting to use them or by not co-ordinating them to help society, a possible "mutilation" or "deviation" may be caused in the development of human beings in contact with various training activities. Moreover, the systematic consideration of various training sources within society could yield positive results in the allocation of training costs among the sectors concerned.

Secondly, the role of a teacher has greatly changed. He has become a specialist in human development, participating both in the initial education (including the period of early childhood) and continuing training of individuals. The new definition of this training, the re-assessment and co-ordination of its elements scattered throughout society, provide the teacher with a key position in the creation of an educational environment (i.e. in and outside school in the strict sense of the word) which encourages the pupils' independent development to the full. Logically, he will initiate his pupils in the art of self-education, made easier by the new educational techniques available. This self-education could perhaps help to keep training costs down.

(a) The teacher's new identity

The teacher is obliged to take into account the considerable divergency of his pupils' tastes and aptitudes, create situations which encourage them to learn, and help and advise them in close collaboration with his colleagues, their families and the needs of organisations where pupils can continue and complete their development. He has, therefore, to modify his former methods and find a new "identity".

- The development of the individual's independence, enabling him to assume the responsibilities which society increasingly tends to offer him, leads to a re-assessment of pupil/teacher relations. The teacher's new social responsibility involves abandoning the principle of authority that still tends to be the basis, of pupil/teacher relations; this originated quite naturally in the function and status attributed until recently to the teacher, who addressed a group of pupils, i.e., a class, generally anonymously. The teacher must now address the pupil as someone to be developed, either individually or as part of a small group, either in or outside school, and as someone who will increasingly be able to control the nature, content and orientation of the education he receives.

- The teacher's job will change considerably, no longer being isolated or of the craftsmanship type. He will now be called upon to co-operate with colleagues and other educational specialists and so to a large extent will have to abandon his traditional independence and become part of a team of teachers within which he will have to converse, criticize and be criticized, prepare work which his colleagues will implement and, far more than before, adopt an inter-disciplinary system. This is essential for a better division of labour and a more systematic and rational use of the range of educational methods and techniques which are either already available, or likely to be created, tested and disseminated in the future. This tendency will also help to improve the relationship between education and the administrative hierarchy. The administration will become less authoritarian and, at the same time, make for a systematic provision of pedagogical advice and a more rational organisation of the educational system itself. By virtue of its own initial and continuing training, the administration will come to understand education more fully.

Finally, so that pupil development may derive real benefit from the active integration of the school into Society, teachers should keep up a continuous dialogue with other members of the community, and particularly families whatever their socio-occupational origins, their activity in the community and their value as adults. The teacher's former isolation in this domain, which generally meant that these tasks fell to the Principal, will gradually disappear because of the new competence he will acquire in his dealings with adults.

The intellectual, emotional and physical aspects of the pupils' development are closely related; with the exception of a few experimental situations, the teachers' present knowledge in this field is far from what it should be. The new knowledge to be acquired will put much less emphasis on intensive specialization in one subject. In line with methods which should be defined as flexibly as possible, the community of which the school is part will have to provide some of the more specialized teachers who are required and who must be provided with the necessary training for teaching their subject. Teachers, who will be more particularly responsible for creating the educational environment suitable for their pupils, will no longer be separated by psychological barriers due to the difference in status as a result of different training, according to the assignment envisaged in one or other kind of education. The slight differences in training for an appointment at one or other educational level, chosen more for personal preference than for any immediate advantage in the present grading of the teaching force, should not hamper the trend towards a single status for the whole teaching profession. This unity in diversity, thanks to the common orientation of training, will also be a means of facing the rapid growth in teacher demand at the various levels of education, and of not hindering assignment changes. Training and status must no longer be an obstacle to the flexibility of teacher utilization and mobility.

(b) An educational system which innovates

Such change implies an urgent need for research into the diversified functions of what one still hesitates to call "the teacher", in view of the image he has presented to himself and to society up to now.

Although, in the absence of systematic research, it is difficult to say whether the more than proportional growth in the number of teachers, compared to that of pupils, will be slowed down (as well, possibly, as staff costs), the educational system would not doubt benefit if such research were rapidly developed. It should be closely integrated with the research and development linking pedagogical research centres, initial and continuing teacher training institutes and an increasingly dense network of pilot-schools. Moreover, so that the teacher can really fulfil the new role assigned to him, his training should fit him to be one of the basic "movers" in innovation. His training from now on should enable him not only to apply the appropriate techniques, but also continually to re-assess his teaching, to question the methods or programmes he uses and to reconsider his role in all training activities. An experimental analysis of his actions and the elements determining them will clarify his concept of a teacher; he will become more conscious of his responsibility as an innovator, a necessary condition if the educational system is to be really effective.

2. Calculating Teacher Requirements

Although new teaching techniques and methods tend to break away from the classroom tradition, and the increasing desire to co-ordinate action better between the various categories of teachers develops team work, the traditional pupil/class ratio (and especially teacher/pupil ratio, through lack of more detailed data) is still the main instrument for calculating recruitment requirements. In practice, both in the past and in available forecasts for the future, all the concepts governing education and the role of the teacher seem hardly to have changed.

It is increasingly clear that in an analysis of teacher requirements based on a correct forecast of such enrolment, factors such as the number of hours pupils are taught (normal and supplementary), the number of pupils per class, and teachers' duties can vary within much wider limits than the factors of social or manpower demand. Without neglecting the latter, or the drain on the existing teaching force to improve the efficiency of education, (pedagogical advisors of various kinds, "teachers' teachers" for the development of continuing education and the extension of initial training, school principals, etc.) the simultaneous variations of each of the other factors mentioned above (and the effects of any variation of one on the others) offer a range of variants whose origin can be found only in decisions taken by the responsible, policy-making bodies. The choice that can be made will naturally depend on the financial resources society makes available to education. Moreover, from the traditional angle, in view of the inflexibility of the qualifications required, the measures adopted can also take into account the maximum percentage of highly-skilled, newly-certificated manpower which will be made available to education.

It seems therefore that forecasts of teacher requirements based on existing training and utilization standards are of little interest, except perhaps in their illustration of the impasse to which the present system leads, i.e., an improvement in the educational service planned only on the basis of a more than proportional increase in teachers as compared to pupils. It would be advisable to design a new forecasting methodology for reaching conclusions on the change in the teacher's role, functions and qualifications.

As in other branches of activity, the educational system must increase its efficiency by means of an optimum combination of the teacher's work and various new educational techniques and methods based on a better division of labour within and even outside schools. Although, without systematic research on the subject, one cannot envisage exactly the number of hours that could be saved, whatever time could be economized would be useful for the continuing education of teachers. This, in the light of recent experience, will prove the most necessary task for the next few years. The forecasts at present available for teacher supply and demand are still far from corresponding to the whole of these new criteria.

3. Recruitment and Qualifications

The brief description of the means used by governments to offset teacher shortage shows that, in varying degrees in each country, teacher training colleges or similar institutions have trained individuals who did not go into teaching, while others who did not attend these institutions did go into teaching. Under existing administrative regulations they are generally considered "uncertificated" which gives them a lower socio-economic status than that of staff classed as "certificated". If the percentage of uncertificated teachers is taken as an indicator of shortage, this shortage is obviously even higher than it appears, since the standards at present required by no means correspond to those required by the fundamental educational reforms being introduced.

In view of the teacher's new role, the difficulties of recruitment at the beginning of the period concerned and the potential resources in the active (or even inactive) population, it is strange that no attempt has been made to find a socially advantageous modus vivendi in which available skills could be more flexibly utilized in conjunction with other activities.

Administrative regulations have been too rigid to allow, except in technical education, the systematic recruitment of full- or part-time specialists working outside education. Their engagement is hampered by unsuitable initial training standards or career conditions. If an increase in part-time education raises problems in allocating time, it is in fact the whole problem of staff administration, in view of their new functions, that should be reconsidered. To the extent that educational reforms increasingly require teachers capable of "detecting" aptitudes, group leaders, advisors, etc., the school authorities have perhaps so far deprived themselves of the support of people possessing these qualities by virtue of their wider social experience.

Can the attempt to compete with other branches of activity in order to attract qualified people into higher education, an attempt contrary to the spirit that should govern relations between School and Society, have a real chance of success? If other branches of activity were to be beaten on their own ground, the least which could have been done was to apply systematically some of the policies responsible for their dynamic character and which, properly adapted to the new-style education described above, could have had only a stimulating effect on the latter's expansion.

4. Utilization of Available Teachers

Prolonged recruitment difficulties and the increase in the costs required to attract and keep well qualified staff imply, in the long term, a revision of the utilization of highly-skilled manpower and research into the optimum combination of capital and labour. Although there is no question of absorbing education into industry, the experience of the 15 years under consideration shows that the link between teacher recruitment and utilization has been neglected. In the first stage, available teachers were mainly used more intensively within the context of the traditional class, and people considered to be unqualified were assigned to vacant posts.

(a) Utilization of a more unified teaching body

Some Member countries have had difficulty in meeting the teacher demand caused in part by the demographic wave moving through the whole education system. The combination of maintaining highly differentiated training for teachers going respectively to primary and secondary education (particularly lower secondary) and the traditional concept of the teacher's role, have made it impossible for the existing teacher stock to be used flexibly. The Scandinavian countries, however, by means of more integrated training, systematic supplementary courses and an up-dating of knowledge have been able to cope with the changes in secondary education more easily than others.

(b) Elimination of secondary duties

Faced with recruitment difficulties and following detailed surveys on the time spent by a teacher on his different duties, some countries (e.g., Sweden, the United Kingdom and the United States) have assigned to less-qualified staff those activities considered secondary to the preparation and performance of purely educational activities. Available time may also be used by the teacher to improve on his own training. Any progress in the more rational use of teachers - mainly in the classroom and more rarely in the establishment - has, however, seldom been linked through new training methods to a more intensive use of capital, i.e., the various technical aids already available or needing systematic experimentation. Although these aids can perform some of the tasks still assigned to the teacher, one must consider them in terms of their ability to provide a good education for the pupils, a stimulating environment for the teacher and, for Society, a reduction in the increasing costs of education.

(c) The Relationship between Capital and Labour

Contrary to what has usually happened in other branches of activity, recruitment difficulties and financial restrictions have not led to the development of research to try to rationalize the working of educational establishments. The results of research could have been systematically employed during initial and continuing teacher training.

The use of various technical aids might help to make education more individualized, in line with the different reforms laid down over the past few years. The general impression produced by an examination of the situation in most countries, however, is that so far the use of new educational methods and techniques has remained limited, and is often still at an experimental stage. The cheapest methods and those easiest to apply have been most frequently employed. These have been introduced into educational systems whose methods, content and style have scarcely changed at all. Periods of shortage have not generally brought about a substitution of capital for the labour which was becoming difficult and costly to obtain.

Since the teacher has not been trained to handle these new techniques, he is still uncertain about the important part he could play in spreading their application. He is afraid his job may be threatened, both in the classroom and on the labour market, and does not always grasp the convergence which exists between reforms and some of the basic means of applying them with regard to both efficacity and costs. Thus, again, the part played by initial and continuing training, and its content, appear to be of fundamental importance for the teacher, particularly in enabling him to ensure that the new teaching aids do not, in fact, adversely affect the pupils' freedom during their education.

5. Training Received

Whereas the educational reforms which were being introduced implied broader and more penetrating pedagogical qualities, it is in general this aspect of the teacher's training that has been neglected or even eliminated.

The authorities, concerned exclusively with finding a speedy solution to quantitative problems, did not seize the opportunity offered them by the recruitment of large numbers of - mostly young - teachers to effect a radical reform of initial teacher training. Many more teachers than before will now stay longer in an inevitably changing school system. It can easily be foreseen that difficulties will arise if education for the masses is developed using teachers trained to educate an elite. Up to now, teachers assigned to secondary schools have been recruited on the basis of their academic qualifications rather than the pedagogical ability corresponding to their new role.

Only the systematic promotion of refresher courses could have improved those types of teacher training generally agreed to be basically unsuitable. With few exceptions, however, continuing education has been restricted to compensating for the inadequate training of teachers who have not passed through the traditional channels leading to officially recognized certificates. The priority of continuing training is made all the more necessary by the strong pressures exercised by demand in a still traditional system. This pressure has had the effect, depending on the period, the country and type of training required, of:

(a) making necessary changes to teacher training which have involved extension of the training period (in most countries for primary school teachers and also to add theoretical and or practical training to the specialized knowledge of secondary school teachers);

(b) shortening the training period and introducing intensive training courses;

(c) abolishing various aptitude tests for admission to training institutes or facilitating the appointment of teachers without all the officially required training (generally without pedagogical training for secondary teaching).

Even the minor difficulties which a fairly large number of the countries have recently encountered in meeting teacher demand may lead some authorities to persist in the retention, for a long time to come, of the traditional concepts of teacher recruitment and utilization. In some countries such a tendency would prevent the transformation of the concept of the teacher who, despite his individual qualities, tends to be synonymous in the public mind with a certain rigidity and a lack of innovative ability characteristic of many educational systems. Without a re-definition of the teacher's role it is likely to be very difficult to project the new career profile essential for quality recruitment.

One way of working towards the effective application of the principles laid down in educational reforms is, therefore, to tackle the problem of the teacher's functions in the school and the content and intensity of the training he must have in order continually to bring innovation into the classroom.

III. The Main Aspects of Training and Recruiting for Innovation

To make education more effective, some Member countries have already modified their training systems or have set up research projects and pilot studies. On the basis of the trends which are emerging the paragraphs below try to define the atmosphere in which both initial and continuing training are being developed. The broad principles indicated here will affect all teachers insofar as the unification of different staff categories will in future be one of the main objectives of the staff policies of Member countries.

1. Recruitment of Student-Teachers

Since an individual's personality continues to develop between 18 and 25 years of age, the recruitment of student-teachers for any training course will now take place only at the end of secondary education. An orientation towards the teaching profession is not necessarily manifest at the commencement of higher education; if the student is drawn towards teaching, he may opt for it fairly early; students deciding at a later date to take up teaching could, however, take another, suitably adapted, training course.

If it appears that teaching is not the most suitable career for a student, he should be able to change without difficulty; similarly, if a teacher wishes to leave the profession to enter another, his basic education should enable him to do so. Any outside expert attracted to teaching should be able to take a suitable training course adapted to his educational level and past experience (this already exists to a certain extent in technical education).

This flexibility means that the first years of teacher training should consist of a common pool of subjects and methods with other types of training. The drawing up of different curricula should lead to a wide range of full- and part-time courses for both students and people working outside education.

The student interested in teaching should be able to produce a file showing his qualities of leadership in school and extra-mural activities during both secondary and further education (group work of group leader in the school, in youth movements, socio-cultural or sporting activities, holiday camps, etc.). This type of activity should be encouraged and made almost compulsory during the training period. The overall development of personality and of activities of this type as the teacher's responsibility in the classroom grows, should be taken into account in assessing the reactions and conduct of the future teacher when dealing with his pupils.

The training system should be able at any given time to receive those who are attracted to teaching, and who already show the qualities required, without limiting them exclusively to one career; it is by encouraging this kind of exchange with other branches of society that the risk of schools becoming socially isolated will be reduced.

2. The Spirit of the Courses, and the Manner in which Training Colleges Function

The working atmosphere in training colleges must make it possible to "create" a genuine urge to teach. The working atmosphere and the relationships (in particular teacher/student relationships) should be an example of what the working conditions will eventually be like in a school (primary, secondary or higher) whose style and content have been changed. The various training activities of the college, through the full participation of student-teachers, should allow the students to acquire an attitude that will encourage them, as teachers, to experiment, to analyse and continually to reassess the method and content of their teaching. The way the college is run is, therefore, fundamental to the new type of training it is hoped the teacher will acquire.

In order to do this, the training college must act as a link between discussion, formulation and change in training systems. It is a permanent, immense, experimental laboratory seeking to improve the range of training activities that it has to co-ordinate.

The teachers of "teachers", i.e., all teacher training staff in the college, must always be ready to change their own behaviour and to promote methods and curricula that will improve teacher training. They must, therefore, remain in direct contact with educational research and development, always be informed of its results and have an opportunity for regular contact with teaching. Periodical meetings, plus sabbatical holidays, whose frequency should be determined, would allow them to discuss their experiences at national and international levels, and "brush up" their knowledge.

To broaden the student-teachers' range of social experience to the full, the isolation of teacher training colleges should be abolished. They have already grouped together the training courses for the different types of staff who are playing an increasing part in schools and with whom teachers will be called upon to work in close harmony: teaching administrators, research workers, school psychologists, documentalists, libraries, etc. They work side-by-side during their courses and have to meet and discuss together during seminars, debates, practical work and pilot-school teaching practice periods. These different types of staff will be better prepared for close collaboration in the future than they are at present. Their concentration in one centre for their training period is particularly useful for practice exercises demonstrating how schools work.

Moreover, it is in the same training college that not only future school staff, but also future "social workers" of various kinds, future executives of industrial and commercial enterprises, etc., would be found.

3. Training Content

Ideally, from the first year or semester of study, student-teachers (or potential student-teachers) are introduced to the teachers' working environment: they become familiar with the structure of the school system, the implication of the reform of teaching duties, the importance for the profession of the new concepts governing education and the fundamental role of the teacher in spreading innovation and applying new educational techniques.

Future primary school teachers may benefit, along with other teachers, from the possibilities of broadening their general training and taking one or more special subjects; future secondary school teachers may take at least two special subjects since it is more a question of recognizing aptitudes than practising the cult of one subject, and some school timetables will be more easily organised as a result.

An important place is given to the human and social sciences; sociology, for example, helps the student understand the links between the development of the school and society and the interaction of school and society; it could serve, for future administrators, as an introduction to the planning of educational development. Psychology allows future teachers to discern the pupils' different aptitudes for class work, to go more thoroughly into the process of acquiring knowledge, to learn about aptitude tests and surveys. The student-teacher is therefore brought into contact with problems raised by "docimology"(1) and pupil observation and guidance.

It no longer seems possible to imagine teacher training which does not give "deconditioning" treatment to a student-teacher straight from secondary education regarding his school experience. Thus both for himself and for his future job of co-ordinating training activities outside school, outside training periods, besides those organised in youth movements, should be arranged in trade and industry and in various economic and social organisations.

During this training the student-teacher is brought into contact with new, technical, educational aids; he is introduced to new educational methods providing greater efficiency and an expansion of individualized teaching (such as courses or counselling given to large, medium or small groups of pupils). He learns how to work in a team, how to become a co-operative member of a group of different specialists in education. He becomes adept at talking to the pupils' parents, or to other people responsible for reception centres outside school, in the strict sense of the word, and he learns how to develop the pupils' knowledge. He therefore serves an apprenticeship in group relations (basic groups, taking meetings, interviews, etc.). He finally learns to plan his work.

Pedagogical training is strictly co-ordinated with specialized training. The theoretical and practical aspects of pedagogical training are closely integrated so that the permanent confrontation of theory with practice can be made throughout training.

The student-teacher doing practice-teaching may go successively from assistant teaching to joint teaching and finally to provisional teaching. He takes part in teacher team work in the school where he is having his period of practice-teaching.

Teacher training should include an introduction to research and development. It should help the student conduct his own research into socio- and psycho-pedagogical matters, and work on the content and development of curricula. An important part of his research takes place "in the field", not solely in the school environment as such. The main aim of this introduction to research should be to enable him to acquire a scientific attitude towards re-assessing the education subsequently furnished. An additional benefit will be that specialized and pedagogical training will be largely interdisciplinary, and much more importance will now be given to the significance of a subject than to an excessively detailed knowledge of it.

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(1) The scientific study of examinations and the validity of their results (translator's note).

Because of this continual, increasingly intensive alternation between theory and practice by means of training periods in which the future teacher's responsibility will be rapidly increased, it becomes easier to check whether the student-teacher may be considered to be well qualified in accordance with the new criteria. A final verification of aptitudes in view of the educational system's objectives may thus be envisaged. Educational efficiency should thus be improved, from the point of view of both organisation and results.

From the above, it is clear there is no single standard model for teacher training. Student-teachers are offered no panacea; they are brought into contact with a range of different educational methods and their training develops as the result of a personal assessment of experience. The college concerned does not offer a training course, but sets of training activities. As we have seen, some of these activities may be organised inside the college, others are necessarily decentralized (outside training periods, practice-teaching in schools, "research activity" in the field). The training institute is thus responsible for organising and co-ordinating these different training activities, and becomes the main centre of confrontation for different individual experiences.

4. Continuing Training

The training college will have a large supply of the latest equipment, which should be used throughout the year. This implies that basic training will be divided into periods to ensure the uninterrupted use of the premises; this equipment may also be used for the further education of the various categories of staff concerned with educational administration.

In fact the "new blood" that should circulate in these various educational institutes will not come solely from the young teachers trained in the new spirit described above: it is not possible for simple reasons of mere "mechanics". One cannot hope to create a new educative environment in schools, able to rouse in individuals a permanent urge to learn, with educators who are themselves no longer part of a personal development process.

The spirit of basic training given to the future teacher aims at developing a real need for continuing education in the person concerned, and for continuing his own development process which started in basic training. The source of initiative in this matter may vary: the individual teacher, a group of teachers, a pedagogical adviser, a training college, etc. Training organisation will be very flexible. The college responsible for further training (which almost always will also be responsible for basic training) should therefore co-ordinate training activities which are far more de-centralized than for initial training. Some of the staff will be called on to teach both young students and experienced teachers, and this will demand an excellent grounding in communication methods and a good knowledge of the real need, both to bring the teachers' knowledge up to date and strengthen it. They will be helped when making effective plans for continuing education, by the bringing to light of the needs felt by the different types of pedagogical advisers (including inspectors), principals and the teachers themselves. Although this kind of training is similar to the basic training, the refresher courses required will vary according to the content of the basic training, the experience acquired and the development of the type of education to which the teacher has been assigned. The delay in adapting initial and continuing training to the new role of the teacher resulting from the various reforms, therefore requires that the part considered to be the most fundamental in continuing training for teachers be made compulsory. But teachers must also be recompensed for their personal efforts, by an increase in the material facilities for organising refresher courses, by sabbatical holidays and improved pay and career possibilities.

5. Organising Training and Innovation

The importance attached to practice-teaching and to pedagogical experience during teacher training for all levels, demands that specific links be established between the training establishment and the "adjoining schools" in the area around the training colleges. These schools, which accept student-teachers during their training, should be able to benefit from the innovations which the training college tries to set up as a result of the new, constantly adapted forms of training for new teachers, and also from the results of their "research and development".

The presence of these young, differently trained prospective teachers may make the teachers in these schools want to reconsider their own training, plan their work differently, and set up teaching teams so as to discuss the introduction of courses or activities for which the young student-teachers are responsible. The training college should always be ready to help adjoining schools to introduce an innovation due either directly or indirectly to the presence of young student-teachers. Their presence may, for example, allow experiments to be made with new teaching methods which are not possible with a limited number of permanent teachers. They may also replace established teachers thus allowing them to take refresher courses in the training college. Contrary to what usually happens at present, the presence of student-teachers should not be a burden on adjoining schools; it should mean an improvement in the whole work of the school, thanks to the new theories the young teacher tries out in his teaching practice.

The new orientation and systematic development of initial and continuing teacher training, the specific recruitment conditions for their "instructors" (including different kinds of pedagogical advisers) and the continual bringing up to date of their knowledge, are among the strategic elements of a policy for spreading innovation throughout education. But to be effective this also requires initial and continuing training for school principals and other educational administrators, training which opens the way, alongside an introduction to the development of school curricula and of new educational processes and knowledge acquisition, to a thorough study of organisational techniques. It must also be remembered that the definition and treatment in depth of the new teacher functions required by the changes in the educational system, and their translation into terms of qualification with a view to more efficient education, can be attempted only if there is a systematic expansion of research and development.

Finally, the interest teachers will take in innovations will depend not only on their growing participation in research and development in the context of the planning of educational development, but also on how far they are associated with the measures and reforms with which they are directly or indirectly concerned; only in this way can teachers themselves benefit fully from the continuing, developmental process which affects all who are engaged in education.

6. The Context, Conditions and Consequences of a High Standard of Recruitment

The experience of the past few years and the changes in training conditions mentioned above allow a few of the basic requirements for better recruitment to be indicated:

(a) forecasts for teacher supply and demand must be introduced into an integrated educational planning system, one of whose main tasks is to train its own human resources;

(b) higher education, becoming responsible for the training of all kinds of teachers, must therefore know the requirements, in terms of quantity and quality, of other consumer levels as well as its own;

(c) forecasts of the various demands for highly-skilled manpower, and of the amount which society agrees to spend on education, should help to improve the assignment to each school level of that number of good teachers compatible with the general balance of education and the human and financial resources available;

(d) however many teachers are recruited from other than traditional sources, the expansion and efficiency of education, by offering society a greater number of better trained certificate-holders, will prove the best way of attracting, in sufficient number, persons with an aptitude for teaching;

(e) since the quantitative and qualitative aspects brought out by teacher requirements cannot be artificially separated, greater co-ordination is needed between the politico-administrative bodies responsible for dealing with one or several aspects of the "teacher" problems.

The links between training, recruitment and the utilization of teachers may also be strengthened by a change in the social image of the teacher and in the way he sees himself. The teacher, as the dynamic executive in an educational system fully open to its environment, and knowing how to mobilize and utilize all educational resources would see the socio-economic aspects of his status improve. New teaching activities inside the school, which might result from an analysis of the educational process, would offer greater possibilities of advancement. It seems, finally, that the recruitment and retention of the best teachers in the profession would be made easier by improving their career profile. Such an improvement might result from a re-definition of the teacher's tasks within a revitalized educational system.

CONCLUSION

Teacher requirement forecasts based on population growth and the increase in enrolment, and carried out in the context of present conditions of appointment, are available for some countries for the period from the present up to 1975 or 1980. From these it appears, apart from a few exceptions mainly in scientific and technical subjects, that the quantitative aspects of recruitment will raise fewer problems than in the past. This will, therefore, provide an opportunity for these countries to try to solve the problems most acute on the qualitative level. As this paper has shown, the teacher occupies a key position in the intellectual, emotional and physical development of individuals; research and the policies to be implemented in this field - for all teaching staff, whatever the level or type of education to which they belong - seem to be high on the list of priorities.

Although the data included in the main report have not made it possible to deal thoroughly with the problems raised by the cost of initial and continuing teacher training and with the level of teacher salaries, it seems clear that we now have an economic structure with the following features: (a) a relatively low training cost which leads to: (b) a low professional status with difficult working conditions and low salary, which in turn mean: (c) a very high leaving rate from the profession, certainly the highest for professions demanding a similar level of education. This situation must be radically changed if the teacher is to play his full part in the new educational organisation. Training will continue throughout the teacher's career and will initially cost more but, by improving the teacher's prestige and salary, will help to keep teachers in the profession for longer and will result in a more efficient system of education; this, in turn, will mean a lower "educational unit" cost to the population as a whole.

In view of all these elements the research which should be undertaken and the policies which should be implemented as rapidly as possible, should emphasize:

(a) the teacher's part in the new organisation of educational activities for both young and adult students;

(b) his different functions in view of the capacity for self-education he will try to develop in his pupils, and the systematic use of new educational techniques and methods to facilitate his task;

(c) the various models of initial and continuing training that might help the teacher fulfil his new role and be as effective as possible; research on continuing training should have absolute priority in view of the existing teaching staff;

(d) training and recruitment conditions for those responsible for training, advising and directing teachers - further basic elements of the strategy for spreading innovation;

(e) the new methodology of teacher requirement forecasting which integrates the new concepts underlying the organisation of the different educational activities;

(f) the new career profiles available to teachers on the basis of the changes in their functions.

GENERAL INTRODUCTION

There is growing agreement that the achievement of the long-term growth objectives of the Member countries of the Organisation for Economic Co-operation and Development can certainly be facilitated if sufficient graduates are made available to the economy. The supply of skilled manpower on the labour market may prove insufficient to meet demand, however, if bottle-necks prevent the educational system from expanding as quickly as is necessary. The resources allocated to education may constitute such a bottle-neck, particularly human resources, i.e. teaching staff. The educational system must itself "produce" this staff, before assigning it to the administration and expansion of education. In an economy open to innovations whose uses are becoming increasingly varied, the recruitment of an ever-growing number of well-qualified teachers may create difficult policy problems for the national authorities.

The Aims of this Report

In the general reports undertaken by O.E.C.D. concerning possible ways of developing education, particular attention has been paid to the difficulty of balancing supply and demand in the different countries. This situation had, in fact, been made clear in the national reports produced under the auspices of O.E.C.D.'s Committee for Scientific and Technical Personnel. Some of the results of the Mediterranean Regional Project reports on Turkey, Greece, Yugoslavia, Italy, Spain and Portugal or of the different reports on general policy and planning for education produced by the Educational Investment and Planning section (for Sweden, Austria, Netherlands, Ireland) may to some extent have been at the origin of the work undertaken on teaching staff. Such surveys as "Targets for Education in Europe 1970" (Washington Conference, 16th-20th October, 1961) or that more specifically dealing with the "numbers, recruitment and training of science and mathematics teachers", had also indicated how great was the need for teachers. The need for a survey at international level was thus shown to allow O.E.C.D. Member countries to get to know the present situation in this field and the main trends likely to result.

The questions raised are both qualitative and quantitative. The quality versus quantity argument very closely affects teachers, and the links connecting these two aspects are particularly strong, and in general very complicated. However important each of these aspects may be, it is not enough to consider only one of them, so that as far as possible, it would also be desirable to make clear the relations existing between the training, recruitment and utilization of the staff categories concerned.

The Layout of the Report

Since there is some convergence of interest, and so that Member countries might judge for themselves the value of some of the solutions adopted by other countries, it seemed preferable to present this Report in three parts. The first tries to make a diagnosis of the past, present and future (when the countries estimated their future teacher requirements) quantitative balance between supply and demand. The second, on the basis of the more important questions previously raised, shows the various aspects of teacher recruitment and utilization policy which have been brought out by national experience. The third, with a view to improving recruitment conditions and increasing the effectiveness of the education supplied, analyses the principal changes which have occurred in teacher training. It was not the Organisation's intention (or its main object) to go into the details of teacher training. Only the lines of force, having either a direct or indirect influence on teacher demand and supply, have been retained.

Obviously, in view of the individual characteristics of each school system examined, the Report makes no pretension at drawing international comparisons of the merits of the various staff training and recruitment systems. This Report aims more simply at confronting, on more or less comparable bases, the policies adopted to face up to a particular problem, and going beyond the differences existing in the various school systems.

The Scope of the Report

The increase in the number of pupils, due to demographic causes and/or to the pressure of social demand for education, at first concerned primary and secondary education. In purely quantitative terms, teacher requirements at these two levels were very heavy. But, in addition, during the period 1950-1965, primary and secondary education were the first to be affected by the reforms concerning: the extension of compulsory schooling; closer dovetailing of primary and lower secondary education, corresponding in general to the period of compulsory education; the development of school observation and guidance; and the raising of the age for taking specialized courses, particularly in technical and vocational training.

These changes have naturally affected the length, content and style of the training of teachers for these levels and, therefore, more generally the conditions of their recruitment. As the vast majority of pupils is in schools at one or other of these levels, the Report has limited its research to the demand and supply characteristics of teachers concerned with pupils ranging between 5, 6 and 7 and 17, 18 or 19.

It will not be possible to ignore completely the other categories of teachers not covered by this Report, for some do, in fact, depend on the school levels considered here, either because their basic training was similar, or because the schools in which they teach are attached to primary or secondary education. The statistical data do not always make any distinction, and it was sometimes impossible to isolate, for example, teachers in preschool or special education. Both these types of education will become increasingly important.

Pre-school education does in fact tend to be considered more and more as one of the means of fighting against the possible consequences of the pupil's social origin for the quality of his future school work. It "socializes" the pupil and prepares for his admission to primary school under the best possible conditions. But the very content of this education, its weakness in some countries and the differences noted in the training levels required of teachers, do not yet allow any conclusions to be drawn concerning training, utilization and recruitment policies in this field.

Special education is expanding as teaching becomes more individualized and the idea of efficiency penetrates into school life. The lack of material and human resources found in some countries has delayed the expansion of this type of education which, in purely quantitative terms, represents a very small part of the school system.

Neither has the Report taken into consideration the teachers required by the different types of permanent education, for which Ministers of Education, Labour or Manpower - or other public, semi-public or private bodies - may be responsible. As from now, this type of education, intended for adults or adolescents who have left school, is becoming increasingly important, for economic and social development calls for occupational changes, higher skills and the bringing up to date of knowledge. But the diversity of the schemes existing in each country, and the excessively slow penetration of the idea of further education into actual practice, do not yet allow us to draw any conclusions concerning the eventual consequences of this development on the quality and number of teachers required.

Finally, although from now on the growth in the number of students and the need to meet society's requirements - continually becoming larger and more diversified - will lead to considerable changes in the structure of higher education, these changes have not been included in this Report because of the special characteristics of training and recruiting questions affecting higher education, of the wide divergence in the aims and teaching methods of the different establishments of higher education, and because the availability of data is affected by their varying degrees of autonomy(1).

On the whole, there are not enough data available - whether quantitative or qualitative - concerning the types of education omitted from the Report for the latter to have been dealt with in the same way as secondary and primary education have been without risk of error.

The elimination of these different categories of teachers from the field does not mean that the possible consequences of their quantitative growth on potential resources of student-teachers or trained teachers (for primary and secondary schools) should be ignored. The drain on the stock of available teachers made by the various types of establishment may in fact raise questions for the responsible authorities of the optimum distribution and utilization of the various categories of teachers according to the priorities selected.

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(1) A preliminary attempt at describing the trend in the number of teachers in higher education was made in the Appendix to Background Study No. 3 entitled "Quantitative Trends in Teaching Staff in Higher Education", Teaching Staff and the Expansion of Education in Member Countries since 1950, prepared for the Conference on Policies for Educational Growth (3rd-5th June, 1970).

Methods Employed in the Report

A report such as this, whose first aim is to inform, must be able to supply numerous examples of national situations or policies in support of its arguments.

National Studies

It proved to be impossible, in view of the differences in the countries considered, to bring out in synthesis the main convergent characteristics without making country reports. The latter's aim has therefore been to describe the situation at national level. As this type of work could not be extended to all O.E.C.D. Member countries, a summary of statistical data accompanied by a short note on teacher training was made for each country not covered by a report. It was understood that for these countries supplementary data might possibly be used to complete the basic information available.

This Report, therefore, is an attempt to draw up a synthesis of very varied national experience. In view of their number the various national examples which have been quoted could not be developed, however interesting they proved. To the extent to which this synthesis relies on contributions and information sent in by the Member countries, the corresponding national report must be referred to if a more thorough description of the particular national mechanism is required. This would allow the reader to know in what context and by what means a policy has been put into application. The different volumes - whose contents have been verified by the responsible authorities in each country concerned, are published in a series entitled "Study on Teachers". The national studies are presented in the following volumes:

- Netherlands-Portugal
- Austria-Grèce-Sweden
- Denmark-Italie-Luxembourg
- Suisse-Yugoslavia
- France-Ireland
- Germany-Belgique-United Kingdom

- Statistics: Canada-Spain-Iceland-Japan-Norway-Turkey-United States of America.

It has been decided that a general outline of the main questions to be dealt with might facilitate an international comparison, these national studies naturally being able to go into greater detail on some specific aspects of the trend in the demand for and supply of teachers.

The preparation of this Report has also benefited from the work undertaken by other international bodies.

Work done by other International Organisations

A special inter-governmental conference on "The Status of Teachers" prepared by UNESCO in co-operation with I.L.O., met on 5th October, 1966, at UNESCO, to draw up a recommendation on the conditions of teaching staff 'which hoped to improve existing standards by means of measures directed at the teachers' particular problems, and the alleviation of the teacher shortage" (preamble to the recommendation). This international instrument which stresses the specific characteristics, the place and role of the teaching profession and also the various aspects of the status of its members, will become an invaluable reference document for an examination of the situation of teaching personnel. As such a document must logically be followed by a thorough examination of a number of problems connected with the conditions of teachers, a committee of experts on teacher training met at UNESCO from 4th to 15th December, 1967, to examine the present trends and problems arising in training(1).

Documentary studies by the Council for Cultural Co-operation of the Council of Europe give the present situation concerning training for teachers in primary and secondary schools(2).

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(1) Final report of the Committee of Experts on Teacher Training (for primary and general secondary schools) UNESCO ED/CS/177/6 (Paris, 20th March, 1968).

(2) J. Majault "Teacher Training" - Council for Cultural Co-operation of the Council of Europe, Education in Europe, Series II, General and Technical Education n° 4, Strasbourg, 1965.

Refresher courses for teachers are held periodically by the Council of Europe(1).

A special technique for teacher training: "The use of audio-visual aids" has been the subject of a report by the Council for Cultural Co-operation of the Council of Europe(2).

The difficulties of training and recruiting teachers for technical and vocational schools have also been examined on various occasions by different organisations(3).

The International Bureau of Education has been making annual surveys of comparative education directly or indirectly concerning teachers(4). Each of these reports, being the basis of a recommendation, helps bring home the urgency of the problems to be solved. Recent reports have also stressed the shortage of teachers at primary and secondary levels(5).

The O.E.C.D. Secretariat has obtained a considerable amount of very important information from the national studies made in close collaboration with the authorities concerned.

In the more general context of the planning of educational growth, the O.E.C.D. study makes it possible to bring to light, on the basis of the trends that have appeared, a number of solutions which might facilitate the application of the general recommendation on "The condition of teachers".

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(1) Course held at Strängnäs (Sweden) in 1966: Report EGT(67)Stage XXV, 4; Course in Glasgow (United Kingdom) held in 1969 (Draft Programme CCC/EGT(68)28).

(2) "The Contribution of Audio-visual Media to Teacher Training", Council of Europe, 1964.

(3) The following examples may be given:
  (a) CIRF, ILO, Geneva, Training of Vocational Teachers, September 1964.
  (b) EEC Colloque sur la formation professionnelle, 16th-20th November, 1964.

(4) Primary Teacher Training (No. 48); Secondary Teacher Training (No. 154); In-Service Training for Primary Teachers (No. 239); Primary Teachers' Salaries (No. 146); Secondary Teachers' Salaries (No. 156).

(5) Shortage of Primary Teachers, IBE-UNESCO, Publication No. 255 (XXVIth Conference on Public Education, Geneva, 1963). Shortage of Secondary School Teachers, IBE-UNESCO No. 301 (XXXth International Conference on Public Education, Geneva, 1967).

The Paucity of the Data Available on Teachers

The care with which certain developments must be interpreted is not due simply to each country's particular cultural traditions. At present there are a number of conclusions which cannot be drawn in the absence of certain quantitative data at national level. A systematic international comparison is obviously even more difficult in this context due to the lack of standardized statistics. In addition, a study of this sort brings out the need to undertake, at both national and international levels, "sector" studies concerning various special aspects of training, recruitment and utilization of teachers (for example, the trends of the different components of the social-professional status of education, real income compared with that of other professions, career prospects, working conditions, initial and further training standards, etc.). The paucity of the present data, and the supplementary surveys which might be undertaken, are stressed throughout the whole of this text, and are the reason why some descriptions may be less complete than others. Thus, owing to lack of data and of valid comparisons between countries and categories of highly qualified manpower, it has not been possible to deal effectively with the very important problem of teachers' salaries. It has been observed - when developments which are themselves very delicate, technically speaking, touch on the policy aspects - that there is an almost total absence of basic data which might make it possible to propose alternative solutions to any questions of priority which might be raised by lack of resources.

The paucity of the statistics available has also made it necessary to abandon the idea of including an annex showing the forecasting methods used. An examination of those for which a more or less detailed description is given in some of the national studies suggests that some of the services responsible use traditional methods in the absence of more detailed information not only on the composition of the stock of skills available but on the very nature of the various internal or external flows tending to modify the quantity or quality of this "human capital". Obviously, the working out and utilization of more refined forecasting models can be done only to the extent that statistics are improved.

A questionnaire covering quantitative aspects was drawn up for use in this Report so that the statistics in the different national studies would be uniform and so allow an international comparison to be started. The questionnaire was based directly on O.E.C.D. publications concerning the standardizing of educational statistics(1). Sometimes it seems easier to answer particular questions than to collate the quantitative evidence on teachers in the systematic fashion proposed by the O.E.C.D. report. From the national studies, however, it can be seen that in some countries the necessary minimum amount of information concerning the teaching staff still does not exist.

The need must again be stressed, within the wider framework of improving school statistics, of undertaking the progressive application of the statistical methods recommended in the O.E.C.D. report referred to above.

Limits to an International Study

The paucity of the data available and the fact that the number of country reports were limited to half the Member countries on the one hand, and the specificity of teacher recruiting conditions in the various countries on the other, must necessarily limit the significance of international comparisons. It was, in fact, necessary to bear in mind national definitions in drawing up various tables. For example, the proportion of "certificated teachers" corresponds to the qualification criteria at present laid down in each country. Even where it has been possible to throw light on the trends apparent in some countries, in describing the problems considered and the solutions adopted by them one cannot assume that all O.E.C.D. countries are interested in similar developments.

Similarly, some of the activities or measures to be undertaken could not always be included in the description of policy questions directly concerning them because of the lack of sufficient data or because it was more convenient to limit oneself to representative examples. It is only on the basis of his own national experience that the reader will be able to "place" his country within the trends noted or pay particular attention to the experiments which appear to him to be closest to those his country is already, or might be, carrying out. Only with the greatest care, therefore, should any interpretation be put on the present classification of countries. A hasty generalization will have no meaning in a context where the cultural and administrative traditions of each country are so important.

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(1) Methods and Statistical Needs for Educational Planning, O.E.C.D., Paris, 1967.

Finally, the latest statistics available may sometimes be two or three years out of date at the time a study of this type is being prepared - in addition in the particular case of this survey, the comparative text could not be finally prepared until after the completion of the country reports and the verification of their contents. The quantitative trend should therefore be considered to have stopped about 1965-1966; some changes may have occurred in these trends since that date. These should not apparently alter the more fundamental aspects of the relationship "training - recruitment - utilization", which this Report attempts to describe, so far as teachers are concerned.

Remarks on Source Indications

As almost all the data used in this Report are taken from the national studies, which were verified by the responsible authorities of the countries concerned, the sources have not been given in the text. When data were used from other publications, whether of the Organisation or of other international or national bodies, or even from special documents sent to the Secretariat, the origin of the document has been indicated in the footnote.

PART ONE

THE CHARACTERISTICS AND SHORTCOMINGS OF TEACHER SUPPLY

(1950-1965)

The increase in the number of pupils during both compulsory and post-compulsory schooling was so great from 1950 to 1965 that it presented a real challenge to the school authorities in their allocation of human resources (teachers) to education. In theory, supply ought to have been compared with demand, but lack of systematic forecasts or essential statistics concerning demand made it impossible to arrive at an exact figure, or to compare it with supply. The first chapter will therefore analyse the main factors affecting demand. The components of supply, and the latter's recent trend when trying to meet demand (Chapter II) will be examined by trying to regroup the given data in terms of either "stock" or "flow" (unfortunately more rarely). In the absence of a systematic comparison between demand and supply, the characteristics of the available stock of certificated staff and the latter's utilization will be examined in Chapter III to bring out the extent and characteristics of the shortage which has existed during the whole or part of this 15-year period. This situation has naturally had very widespread consequences. We shall consider only those (although difficult to measure) which concern regional disequilibrium in matters of qualification and the transfer of teachers from one educational level to another and the level at which teachers are trained (Chapter IV). Several countries have forecast the trend of their teacher requirements and the possibility of satisfying them, and Chapter V will attempt to bring out the main trends during the next ten years.

The educational system, although the "producer" of its own human resources, is not the only "consumer" of graduates. The continuous growth in teacher requirements under the existing school organisation will probably increase competition from the various sectors of society to attract the most outstanding graduates. Without directly tackling the basic problem of the financial resources which society wishes to allocate to teaching, the more general question of training strategy, recruitment and utilization of highly qualified manpower is certainly raised. Teachers in general, i.e., not only those with whom this Report is concerned but also those in nursery schools and in higher education are part of this highly qualified manpower and, in line with their own particular activities, will be drawn into far-reaching changes in the same way as other top level staff, and will be affected on both qualitative and quantitative levels. These are the points on which the various chapters on the characteristics of teacher supply for primary and secondary schools, will conclude their discussion.

CHAPTER I

THE MAIN FACTORS AFFECTING THE DEMAND FOR TEACHERS

Teacher demand is determined by the nature of the educational system and the way in which it utilizes staff. Before analysing demand, however, a general breakdown of the pupil population must be obtained. In general, the teacher's training will vary according to the type of school in which he is to teach. In most school systems, classes are smallest where age-levels are highest, and teachers are specialized and have shorter teaching hours than their colleagues taking lower classes.

The first factor to be considered is the number of pupils, and the first element to be examined that of the demographic phenomena which played so important a part in the period in question. The second factor is institutional in character: to the growth in the number of pupils due to demographic causes should be added, beyond the compulsory education period, the spontaneous increase in the demand for teachers, accelerated by reforms to the educational system - reforms which themselves imply a larger number of teachers. The statistics available do not allow us to discover the extent to which each factor is responsible for the increase in teacher requirements for the period in question. Such an analysis would be possible only on the basis of the data used to plan recruitment in each of the countries concerned at the time these plans were drawn up, or on the basis of a detailed, country by country, analysis of the various components of teacher requirements. Such a retrospective study being impossible, an attempt will be made simply to summarize the main causes of the increase in the demand for teachers as indicated by the countries.

1. The Demographic Factor

Each country has its own demographic characteristics. Demographic phenomena may affect the various countries at different periods. On the whole, it seems that almost all O.E.C.D. Member countries have had to contend, at one time or another, with a large increase in the age-groups affected by the period of compulsory and non-compulsory education, and by an additional demand for school places due to the migration of the population.

(a) Trends in the age-groups corresponding to primary and secondary schooling

The size of the age-groups corresponding to the period of compulsory schooling is of fundamental importance since it directly determines the size of the educational facilities which must be organised. This datum is a basic element for calculating enrolment beyond compulsory education, but the actual figure for pupils who will attend school will depend on the attitude of society and of the family towards education. At the end of the Second World War, many O.E.C.D. countries had to face up to an increase in the birth rate which, about 1950, caused a large flow of pupils into primary education. This demographic flow has moved, over the years, into the highest levels of education. As most demand and supply surveys have been based mainly on the type of teacher it was required to recruit, only a few examples, corresponding to primary and secondary school teachers, will be given here of the increase in the age groups. These data are therefore simply an indication, for in general they cover only basic primary school (and not what is known as "upper" primary school, except for Austria - Table 1).

Table 1 shows the differences in national situations. Of the eleven countries examined, in five the age group corresponding to basic primary schooling continued to increase throughout the whole period, and in three, after a fairly heavy increase between 1950 and 1955, there was a decrease in size. But between 1960 and 1965 in two of these three countries, and in two German-speaking countries (Germany-Austria), there was a further increase in this age-group. Even though more detailed demographic data cannot be given, many countries (but not Japan) indicated that they had had to face up to an increase in this age group at one time or another.

TABLE 1

Growth in the age-groups corresponding to basic primary education (1950 = 100)

Country	Age group	Years		
		1955	1960	1965
Austria(2)	6–14	99	91	96
Canada(3)	5–13	123	151	169
Germany(1)	6–10	92	100	112
Iceland	7–15	–	156	175
Italy(5)	7–11	–	104	106(6)
Luxembourg	6–11	100	113	129
Netherlands	6–12	125	132	130
Northern Ireland	5–11	109	107	112
Spain(4)	6–11	113	115	124
Sweden	7–12	125	112	105
Switzerland	6–11	122	119	125

Notes: (1) Not including the Saar.

(2) Covers the period corresponding to upper primary education.

(3) Covers the final year of pre-school education.

(4) Covers one year more than basic primary education.

(5) 1951 = 100.

(6) 1964.

The age-group corresponding to secondary education affects both the compulsory and non-compulsory periods of education. In addition, in many European countries, admission to traditional secondary education was restricted to a minority, so that it is really the number of pupils admitted to the schools (Table 5) which will be significant. In seven countries out of the 13 examined the age-group corresponding to secondary education grew throughout the period. Apart from Northern Ireland, the growth rate registered between 1960 and 1965 for six countries accelerated as compared with 1950-1960.

Although of basic importance for the compulsory school period, the utilization of the size of the age-groups concerned is not sufficient to determine the real figure for the number of pupils and, from that, for teachers. Very rarely, in fact, does the theoretical age and real age of the pupils in a census correspond. If we consider simply the example of basic primary school, pupils should be eliminated who are in upper primary school, in pre-primary school and in special schools. This cannot always be done for administrative or statistical reasons, for the training received by these teachers is very similar to that of the primary school teachers who are teaching there. In addition, in many countries, the pupils who repeat classes should be added. Table 3 shows the difference found between the real enrolment rates for primary schools (based on the number of pupils in the corresponding age-groups) and the theoretical rate (based on the actual number of pupils attending primary school). The second column of the table brings out for each year examined the number of pupils as a percentage of all those who do not come under the corresponding age-group, but are nevertheless enrolled in primary education. This percentage has fallen during the period in the three cases cited. As will be seen below, measures of an institutional nature tend to accelerate this trend.

TABLE 2

Growth in the age-groups corresponding to secondary education (1950 = 100)

Country	Age group	Years 1955	1960	1965
Germany(1)	10-16	92	80	88
	10-19	102	91	93
Austria	10-17	115	105	102
	14-19	118	119	112
Canada(2)	14-17	111	140	177
Spain	11-17	96	109	110
	14-17	78	93	98
United States(3)	14-17	111	136	168
Northern Ireland	11-18	108	117	118
	11-15	109	119	115
Iceland	13-19	-	126	154
Italy(4)	12-14	-	100	92(5)
(4)	15-19	-	93	102(5)
(4)	12-19	-	96	99(5)
Luxembourg	12-18	116	136	152
Netherlands	12-18	104	128	146
Portugal	11-17	-	101	105
Sweden	13-15	119	152	130
	16-18	111	148	151
	13-18	115	150	140
Switzerland	12-15	109	136	135
	16-19	95	112	146
	12-19	102	124	140

(1) Source: Federal Bureau of Statistics.
(2) 1951-1952 = 100.
(3) 1949-1950 = 100.
(4) 1951 = 100.
(5) 1964.

Even for compulsory education therefore, the trends for the age-groups concerned should be interpreted very carefully in view of the actual conditions under which all the schooling takes place. The teacher recruitment effort made by the different countries will finally be reflected in the trend in the number of pupils for the two levels considered in this Report.

TABLE 3

Actual and theoretical enrolment rates in primary education, and the percentage of pupils outside the corresponding age-group in Scotland, Northern Ireland and Greece

Country	1950		1955		1960		1965	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Scotland (5-11)								
Actual rate	-	-	95	-	96	-	96	-
Theoretical rate	-	6	100	4	100	4	99	3
Northern Ireland (5-11)								
Actual rate	91	-	92	-	91	-	93	-
Theoretical rate	111	18	112	18	107	15	101	8
Greece (6-12)								
Actual rate	-	-	97	-	100	-	97(3)	-
Theoretical rate	-	-	110	11	109	8	105	8

(1) Enrolment rate.

(2) Percentage of total pupils outside the corresponding age-group.

(3) 1962.

(b) Migration

Migratory movements have affected a large number of countries during the period under examination. Internal migration seems to have influenced the growth in teacher requirements more than immigration or emigration. Some countries have been affected by both internal migration and by emigration at the same time. This was true of countries participating in the Mediterranean Regional Project, and of Ireland. Other countries, such as Canada, Switzerland and France, have experienced both internal migration and immigration. Emigration may result in a fall in the marriage and birth rates and may, therefore, slow-down the demand for teachers. In Greece, where eleven per cent of the emigrants are in the 0-14 age-group, it seems that the primary school age-group has been only slightly affected. The age-group corresponding to secondary education, on the other hand, seems to have been much more strongly influenced. In Canada, a country of immigration, the annual increase in school-age children caused by the arrival of young children is slightly below 0.5 per cent. It is mainly internal migration, caused by economic and social changes displacing a large number of inhabitants each year, which has given rise to a heavy additional demand for teachers.

The differences in population density between town and country which are caused by migration from rural to urban areas create imbalance in the pupil/teacher rates by region. In rural areas, single-teacher schools still exist, while the urban schools are overcrowded. The demand for teachers increases because the fall in population in rural areas does not always entail the closing down of the schools, and the authorities concerned cannot therefore compensate for the increased demand for teachers. Transport difficulties, in areas where access to school is difficult, sometimes prevent the regrouping of pupils and teachers into a school with several classes. This inability to compensate fully for the opening of new classes by the closing-down of old ones is found in many countries faced by an exchange of population between the centre of large towns and the surrounding areas. The departure of families towards the outside of the towns does not necessarily mean the closing down of the classes abandoned by some of the children.

Internal migration is therefore an important factor in the increased demand for teachers, particularly at compulsory-school level. A simple analysis at national level of the growth in expected numbers, in view of the movement of the age-groups, would underestimate the real need for teachers.

2. Institutional Factors

Among these the type of reform affecting the school system is particularly important. This Report will be limited to education at school, as outside forms of training do not come under its scope. The aims of the vast structural reforms which at present affect the period of compulsory schooling and, indirectly, the more diversified types of education which follow it, will have not only a quantitative but also a qualitative influence on teacher requirements, since the aim, the content and style of teaching are changed.

For some years (and for some time still to come), most of the European countries have been in the throes of school reforms affecting simultaneously, or successively, all types and levels of education. So far as this Report is concerned, only those changes will be dealt with which Member countries will make at the levels of compulsory schooling and of the various types of secondary schooling which follow it. Only when the new trends in teacher training are discussed will some of the changes be touched upon which are (or should be) made to higher education.

(a) The situation prior to the reforms

For many years - until about 1950 - for a large number of children the period of compulsory schooling was spent in primary school. The latter, during the seven or eight years of compulsory schooling, did in fact play a fundamental part in educating the majority of the population. Made compulsory by national legislation, this was the only education which affected the whole of the population.

Only a minority of the pupils left school between the ages of 10 and 12 years to go on to traditional secondary education. Primary education was in fact terminal for the majority of pupils. Some went straight into active (or non-active) life, others took vocational training in specialized schools, or became apprentices. Thus primary education curricula allowed a minority to have a good basic instruction before going into secondary education, but were above all intended to allow the majority of the pupils to become citizens with the necessary minimum educational background. Teachers were therefore trained accordingly.

The best among these were called upon to teach in "extended primary" or "upper primary", a sort of parallel education to allow a small number of the not so wealthy pupils to have access to a higher level of education than the majority, which left the final primary classes at the age of 13 or 14. What has been termed "the secondary schooling for the poor" has made it possible, in some countries, to recruit students for primary teacher training colleges.

Traditional secondary education brought a small number of pupils, generally from the more privileged classes, up to the level of the secondary school leaving certificate giving admission to the university.

The joint effect of economic and social development and the post-war demographic bulge meant that a larger number of pupils than before wanted to go into secondary education after their basic primary schooling (four to six years according to country). The traditional education system was not able to keep its earlier structure and content, for they no longer corresponded to the wishes of the larger number of pupils coming from much more varied social backgrounds.

(b) Problems to be solved and reforms undertaken

- Problems

The overall growth in the number of pupils has resulted in a relative fall in the number of those finishing their education in compulsory primary school, and a very considerable increase in the number of those enrolled in secondary education. In view of the skilled manpower required, secondary education had to become more diversified and offer technical instruction - which sought the same recognition of its place and status as that of traditional secondary education. Finally, upper primary education, which has become "short secondary", expanded because, in the sparsely populated areas, it was the only type of education available beyond basic primary, or because the not-so-well-to-do class of pupil was advised to enter it, or because the education offered to those who attended these schools enabled them to benefit more from the vocational training available to them at the end of their "para-secondary" training.

Social demand for education, encouraged by economic progress which itself requires more certificate holders and allows the children to stay at school longer, has entailed a spontaneous extension to the period of schooling. But the period of education now situated at primary/lower secondary level has been marked by a multiplication of administrative establishments, each trying to get the best pupils for itself and "guiding" "its" pupils towards streams which may not always correspond to the tastes and aptitudes of the children or to society's requirements.

Society's demands were increasingly for citizens with a solid basic background which would allow them to enter adult life, whether active or non-active, with the maximum chance of success, or to go on to more specialized training. In particular, it had become more and more evident that a technical or vocational training - which has to be increasingly all-round in character in view of the trend of technology - could not be provided for pupils whose basic general education was insufficient, the character and length of which had therefore to be re-examined.

Pupils' aptitudes and tastes could no longer be left to the luck of their first choice of school and its reputation, or to the different opinions which relied far more on traditional reactions than on a proper observation and guidance of the pupil over a fairly long period. Pupil observation and the analysis of aptitudes required however that pre-guidance at the age of 10, 11 or 12 should be replaced by continuous observation and that any subsequent reorientation should not be prevented by the structure of the various establishments.

To solve the main problems some countries adopted solutions which, although differing from each other, had three common characteristics: the period of compulsory schooling was extended; the more specialized courses at secondary level were to start later; various types of establishments were created. The first two characteristics appear to apply to almost all the countries covered by this Report.

On the other hand, the third has different implications, according to the country concerned, for the resources to be allocated to education, and in particular for human resources (teachers). Some countries have retained, but improved, the various types of education offered to pupils during compulsory schooling. Others have preferred to make compulsory schooling a "single block" preceding what is becoming increasingly known as upper secondary school, primary school becoming the first stage - one of the most fundamental - in the general education of all pupils.

- Co-ordination of the different types of compulsory schooling

Under these systems, the pupil continues to opt between the different types of education at between roughly 10 and 12 years of age: (a) extended primary education, sometimes renamed "practical education"; this attempts to apply, to the pupils considered to have less aptitude for theoretical courses, the "active" teaching techniques already employed in some terminal classes of primary education or in experimental classes in compulsory education; (b) what is known as "short modern secondary", generally born of the old upper primary school; and (c) traditional secondary school.

At the end of the period of compulsory schooling, at about 15-16 years of age, pupils either enter active - or non-active - life, or continue their education in one of the establishments of what is known as upper secondary education. A difference exists, in the countries which have chosen this solution, according to the ease with which it is possible to transfer from one type of education to another during the period of compulsory schooling corresponding to lower secondary school and according to the streams or types of school offered, at the beginning of secondary school, to pupils who have finished the different sections of primary school.

In order to facilitate the observation and reorientation of pupils, some countries set up establishments covering several fields, thus allowing on-the-spot reorientation, experience having frequently proved that reorientation is more difficult if the pupil has to change to another type of establishment. In addition, the arrangement of the syllabus in general allows pupils in short modern secondary education to go into long general secondary education at upper secondary level. The other countries, although maintaining a differentiation between types of establishment, while setting up machinery for the observation and guidance of pupils, have created a system of "bridges" so that every student can change over to the type of education which would suit him best.

- Unification of the different types of compulsory schooling

A second large group of countries has abandoned any rigid distinctions between the different types of education at compulsory schooling level and has established continuous education from age 5, 6 or 7 to age 14, 15 or 16. All pupils have the same, unified type of schooling in which primary and secondary education form a whole, although the part corresponding to each of these sections may be offered in different buildings. This period of compulsory schooling makes it possible to keep an eye on the pupils' education which, in the final years of lower secondary school, includes options allowing them to decide, on a better informed basis, between the more specialized courses of upper secondary school.

The object of the very wide classifications indicated above is mainly to bring out not only the quantitative but also the qualitative consequences of teacher requirements. In the first large teacher group, the basic teacher training and recruitment characteristics may remain very much the same as before whereas, in the second group, the spirit and content of training should be completely revised for teachers appointed to schools which come under the compulsory education system.

- Changes affecting upper secondary education

Upper secondary education has had to vary and modify its content in view of the flow of new pupils and the new manpower skills required. The increasingly important part played by technical and vocational teachers has had the effect of giving - definitively in some countries - these teachers their place in secondary education side by side with general secondary education, which in turn offers far more options than before. This upper secondary school education thus makes admission possible to general and technical education at the end of compulsory education.

Some general and technical secondary education certificates require a high level of theoretical education, thus allowing wider admission than previously to higher education - itself now more diversified with the prolonging of general basic education. The character of technical education has changed; it can supply a thorough technical, theoretical and practical training. School organisation has itself been changed, in particular the use made of the teachers assigned to it, and even the level of their training.

(c) Direct influence on teacher recruitment

The various reform measures entail almost automatically an increase in the number of pupils and, therefore, in the number of teachers.

- The extension of compulsory schooling

The period of compulsory schooling was extended in many countries between 1950 and 1965. Measures of principle have been taken recently in some countries, and their effects will be felt between 1968 and 1975. The Netherlands (1950), Yugoslavia (1952), Luxembourg (1954) were affected by this extension at the beginning of the period. Nine-year compulsory schooling has been introduced during the past ten years in the Scandinavian countries (Norway, Sweden), in Germany in some Länder, and in Switzerland in some Cantons. Only as from 1964, 1965, 1966 and 1967 respectively have Spain, Portugal, France and Austria (and possibly Greece) had to face a similar situation. England and Wales are to extend the period of compulsory education during the 1970's. Lack of data makes it scarcely possible to indicate the additional demand for teachers caused by these measures. In the German-speaking countries (Germany, Austria) it is about 10-15 per cent. This extension has been introduced by lowering the admission age to primary school; in Northern Ireland, for example, the period of schooling was extended at both ends: from 14 to 15 years of age, and from 6 to 5 years of age.

- Admission at an earlier age

Even without the intervention of specific measures to extend the period of education, the increasingly recognized importance of the part played by the school, in compensating for social-cultural handicaps, has resulted in the provision of increased facilities for very young children. The child's subsequent schooling will thus be made easier. This measure naturally implies more teachers for the lower classes of primary school, and subsequently in the other classes - to the extent that the higher rate of enrolment is maintained. Thus, in Greece, parents have been given the possibility of enrolling their children in primary school at age 5½ (instead of 6 - decree of 1964); during the first year of the application of this measure the normal number of enrolements was 20 per cent higher. Similar decisions have been taken in Yugoslavia as urbanization has developed. In Canada and the United States, admission to the first year tends to be at an earlier age; a recent circular in France also offers this possibility, and lays down the need for a more long-term rearrangement of the present link between pre-school education and the earlier years of primary school.

- Reduction in the pupil/class ratio

The various educational reforms also require a reduction in the pupil/class ratio and, therefore, in the number of teachers required. In particular, an improvement in pupil observation and guidance does not appear compatible with overloaded classes. Classes are being split up more and more, either for the more thorough study of certain subjects, for the pupil to get a better knowledge of working methods, or to improve the work of children who have difficulty in keeping up with the rest of the class (Italy for example).

- Other measures to improve school attendance

Many countries, and in particular the O.E.C.D. Mediterranean countries, have taken steps to ensure the stricter application of the Acts on compulsory schooling whether or not as part of a thorough reform of the education system. New schools have been built, including those in isolated areas, school meal facilities have been extended (Greece) as well as school transportation or even facilities for boarders (in Turkey, boarding schools called "regional schools" exist for children from sparsely populated areas). Special steps have also been taken in these countries to improve the attendance of girls at school, rendered difficult by cultural traditions which are sometimes hard to counteract. In the more developed O.E.C.D. countries direct and indirect aid to pupils (scholarships, family education allowances, school books, etc., almost free of charge) also tend to attract and retain more pupils at school, thus increasing the demand for teachers. Under these reforms such obstacles during compulsory schooling as the examinations for admission to some types of education (e.g. from primary to secondary school) have been abolished in a number of countries. In 1965-1966, in Greece, this resulted in an increase of 31 per cent in new enrolments in the first year of secondary school.

- Improved enrolment at the highest levels

The spontaneous increase in the number of pupils after the period of compulsory schooling, either preceding or following the co-ordination and unification of the various types of secondary education, causes a heavier demand for teachers, since the higher the level of the class in secondary education, the greater the demand for teachers. Far more optional subjects are offered, and the number in the class is much smaller than during the earlier years. New subjects have made their appearance in reorganised secondary education, such as those connected with technology, human sciences or economics. New, specialised teachers have therefore had to be appointed. Similarly, the drawing closer of technical to general education and the change in techniques has increased the demand for specialists in the vocational and technical options offered at secondary level.

- The social-professional status of the teacher

No reorganisation of the educational system can be carried out if the social and professional status of teachers is not altered. The role of the teacher in a more individualized type of teaching - and which is expected to "reform itself" - implies a change in the training content. For primary teaching, in many countries this change cannot be introduced without extending the period of teacher training. Many European countries have in fact adopted the theory that, the younger the pupil, the less important the period and the level of teacher training. Any increase in the period of training however (a year for example) means a proportionate reduction in the number of certificated teachers produced. Neither is efficient work in school compatible with an overloaded time-table, and teaching could obviously not be excluded from the progress made in this respect in other sectors of society. This is why, in some countries and in spite of the pressure of teacher requirements, it has been decided to reduce the duties of teachers, a factor which might indirectly favour recruitment, particularly that of women. This reduction in the number of duties is also a factor in the increase in demand. Demand is itself higher as a result of the increased weight of women teachers in the whole of the teaching staff, the turnover rates of women teachers being high for certain age-groups.

Finally, the actual improvement in the efficiency of teaching is brought about by an increase in administrative staff, in inspectors and in the staff of the independent teacher training colleges or other training institutions - increase which usually causes a drain on the teaching staff in service.

These, briefly summarized, are the main factors, institutional in origin, which increased the demand for teachers from 1950 to 1965. Their effects will still be felt up to 1970-1975. Although some of the decisions mentioned above were taken outside a thorough reorganisation of the school system, they all contribute to an increase - sometimes more than proportionate - in teachers as compared to pupils. The "spontaneous demand for education" is naturally the third main independent factor which has led to an increase in teacher requirements. The social demand for education is itself indirectly stimulated by institutional measures the principles of which were described above(1).

3. Increase in the Number of Pupils

For almost all O.E.C.D. countries (except Greece) Tables 4 and 5 attempt to give the increase in the number of pupils at primary and general secondary levels.

Except in one country (Spain) from 1950 to 1965 the growth in the number of pupils was not only greater in secondary than in primary schools but considerably greater, since, in general secondary education, an increase of more than 100 per cent has been shown for 15 countries. Only one country (Turkey) has had a similar increase in primary education. Whereas 12 countries show an increase (and even a fall) of less than 25 per cent in the number of pupils in primary schools, for general secondary education there are only two countries as low as this.

In view of the subsequent need to compare as closely as possible the trend in the number of pupils with that of corresponding teachers, the growth indicated above in the number of pupils in secondary education has been adjusted downwards. For some countries it would in fact be preferable to add pupils in "short" secondary courses, the old upper primary schools, for which the teaching staff is very different from that corresponding to the number of pupils shown in Table 5. The teachers in these classes are generally primary school teachers who have obtained a special teaching certificate. Table 6 shows the growth in the number of these pupils in France and the Netherlands. This growth is greater than that for long general secondary education in France; a similar result is shown for upper primary schools in the Netherlands.

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(1) The quantitative and structural aspects of the development of secondary education are dealt with in Development of Secondary Education, Trends and Implications, O.E.C.D., Paris, 1969.

TABLE 4

Growth in the number of pupils in primary schools from 1950 to 1965

(1950 = 100)

	1955	1960	1965
Over 100 per cent			
Turkey	123	177	243
Between 75 and 100 per cent			
Canada(1)(2)	125	153	176
Between 50 and 75 per cent			
Ireland	126	154	168
Yugoslavia(3)(4)	112	143	165(5)
Between 25 and 50 per cent			
Denmark(6)(7)	120(8)	124(9)	125(10)
Spain	103	121(11)	125
United States(12)(13)	117	132	145
France	118(14)	141(11)	136(5)
Norway(15)	131	140	131
Portugal(16)	131	141	141(5)
Less than 25 per cent			
England and Wales	115	104	105
Belgium	112	118	122
Scotland(17)	110	107	110
Northern Ireland(17)	109	103	102
Irish Republic(18)	108	108	112
Luxembourg(19)	99	106	119
Netherlands	121	124	120
Switzerland(2)	117(8)	121(9)	-
Sweden	124	118	102
Decrease			
Austria(20)	89	87	93
Germany(21)	75	79	86
Italy	97	93	92
Japan	110	113	87

(1) From kindergarten to eighth class.

(2) 1951-52 = 100.

(3) Eight-year school.

(4) 1952 = 100.

(5) 1964-65.

(6) Including most of lower secondary education.

(7) 1951 = 100.

(8) 1956.

(9) 1961.

(10) 1967.

(11) 1959-60.

(12) Including kindergarten.

(13) 1949-50 = 100.

(14) 1954-55.

(15) Including continuation schools.

(16) Public only.

(17) Including children aged two to four years and those twelve and over.

(18) National schools.

(19) Including upper primary education and continuation classes as from 1963.

(20) Including upper primary and special education.

(21) Source: Federal Bureau of Statistics; excluding "Town-States".

TABLE 5

Growth in the number of pupils in general secondary schools(1) from 1950 to 1965

(1950 = 100)

	1955	1960	1965
Over 100 per cent			
Belgium	114	169	215
Canada(2)	129	200	306
United States(2)(3)	146	204	263
France(2)(4)	122(4)	188(5)	258
Irish Republic(5)	122	158	203
Northern Ireland(6)	130	244	309
Iceland	111	187	261
Italy	139	190	243
Luxembourg	127	179	210
Norway	131	247	425
Netherlands	119	190	243
Portugal(4)	141	210	272
Sweden	142	209	281
Turkey	184	419	611
Yugoslavia(7)	117	113	212
Between 50 and 100 per cent			
England and Wales(2)	112	155	159
Germany(8)	142	142	172
Japan(2)	118	127	154
Switzerland(7)	134(9)	152(10)	-
Between 25 and 50 per cent			
Austria	129	135	146
Denmark(11)(7)	115(9)	119(10)	149(12)
Less than 25 per cent			
Scotland	100	124	122
Spain	96	109	110

(1) Some countries include technical options, these are mentioned in a note; Table 6 supplies additional figures for the so-called "short" courses for which teachers have different qualifications from those generally required for the types of education mentioned here.

(2) Including technical options.

(3) 1949-1950 = 100.

(4) Public only.

(5) Not including unsubsidized schools.

(6) Including middle technical education.

(7) 1951 = 100.

(8) See note 21, Table 4.

(9) 1956.

(10) 1961.

(11) Small part of the pupils in lower secondary and general upper secondary education.

(12) 1966.

TABLE 6

Growth in the number of pupils in short modern secondary courses (France, Netherlands) from 1950 to 1965

(1950 = 100)

	1955	1960	1965
France(1)	111(4)	205(5)	386(6)
Netherlands (VJLO)(2)	292	331	300
(ULO)(3)	124	196	218

(1) Public only.

(2) Upper primary.

(3) Short modern secondary.

(4) 1954-55.

(5) 1959-60.

(6) 1964-65.

The difference in growth between primary and secondary education would be even greater if secondary level technical schools could be included. Data concerning teachers in these schools are unfortunately rare and difficult to use. The data supplied in Table 7 showing some increases in the numbers in secondary level technical education are therefore no more than an indication; some of these data may subsequently be compared only with full-time teaching staff in technical education.

In nearly half the cases cited in Table 7, the increase in the numbers in technical education between 1950 and 1965 was greater than that in general secondary education for the same country.

In all, the trend in the number of pupils meant that the demand for teachers was much heavier in secondary education during these 15 years. This level, however, "consumes" more teachers for the same number of pupils, and the teachers need a longer and more specialized training than that generally offered to primary teachers. The full extent of the problem raised will be made clear by the particular factors which have influenced the supply of teachers.

TABLE 7

Growth in the number of pupils in technical education at secondary level(1) from 1950 to 1965

(1950 = 100)

	1955	1960	1965
Technical and vocational education			
Austria	176	181	178
Belgium	108	165	234
Germany(2)	137	102	113
Ireland	113	110	127
Netherlands	118	194	236
Portugal(3)	-	298	438(4)
Turkey	195	232	330
Technical education			
Italy	163	252	362
Yugoslavia(5)	93	243	438(3)
Vocational education			
Italy	246	334	720
Yugoslavia(5)	101	127	151(3)

(1) Technical options are included in general secondary education (Table 5); for Italy and Yugoslavia technical and vocational education have been separated, in view of the differences which exist in the respective teaching staffs.

(2) Including "Hohere Fachschule": university-level higher education in 1950 and 1955 data for the Saar are not included.

(3) Public only.

(4) 1964-65.

(5) 1952 = 100.

CHAPTER II

TEACHER SUPPLY

The demographic increase which affected most of the European countries after the second World War, and which continued in many of them, could not but cause recruitment difficulties.

First, for a purely "mechanical" reason, the expansion in primary and secondary education generally preceded that in higher education, and the latter could hardly immediately increase the training rate for the graduate teachers required to meet demand. According to country, between seven and ten years are needed before a pupil leaving compulsory education can start teaching at secondary level.

Secondly, it was from small age-groups that teachers had to be recruited for pupils belonging to a much larger one.

It must also be stressed that the teacher's social-professional status did not appear as attractive as before in comparison with the new careers resulting from technological, economic and social development. The financial restraints which have made teaching lose some of its attraction have therefore resulted in slowing down the increase in the number of places occupied in training colleges.

When a trend changes and the number of teachers has to be increased, lack of flexibility may cause existing legislation to slow down the possible expansion of the teaching staff. Some school authorities, and often the teachers themselves, remain influenced by the surplus that has existed in the past; in the Netherlands, during the thirties, young primary-teacher certificate holders had difficulty in finding employment. In Austria, at the beginning of the fifties, possible candidates abstained either on their own initiative or on the advice of the authorities from entering a profession where possibilities were doubtful.

Some of these difficulties might have been overcome if forecasting and planning machinery had been set up. At the beginning of the fifties, however, there was no question of this, and the few statistics which existed, expressed in terms of "stock", were for purely administrative purposes and could not be used immediately to consider new recruitment policy. In any case, in view of the minimum "delayed reaction" represented by the time required to train a teacher, it was hardly possible to bring about an immediate adjustment between supply resulting from traditional sources of recruitment and demand.

The number of teachers it was finally possible to make available to education between 1950 and 1965 was the result of either a voluntary, or a forced (when it resulted,in the eyes of traditional legislations, in a lowering of the standard of qualification) diversification of recruitment.

The recruiting conditions for newly certificated teachers had first to be examined; the action which was undertaken to extend the sources tends to prove that the number of certificate holders was insufficient. However, the extending of recruitment sources (more women or lower qualified auxiliary staff) has affected the rate at which staff leave the profession. Only as this tendency ceases can the growth in the full-time teachers actually in service be given for the key dates retained (1950, 1955, 1960, 1965).

1. Recruitment of Student Teachers and Availability of Newly Certificated Teachers

According to the cultural and administrative traditions of the country concerned, the number of young teacher certificate holders entering the profession more or less depends on the conditions for admission to training colleges. A legal financial obligation may exist requiring the future student teacher to accept a post at the end of his training, or the training may be so specialized that openings other than teaching are barely possible. It is therefore preferable to deal separately with recruitment for training colleges and the actual participation of certificated teachers in teaching.

(a) Recruitment of student teachers

Although, in special surveys(1), some countries indicated that admission to training colleges had been slowed down as a result of a shortage of places, lack of data makes this difficult to prove, for there is also another restriction about which information is lacking: selection criteria and, in some countries (e.g. France), the number of teaching posts subsequently to be covered by the budget. A more thorough study would require a knowledge of the method of fixing the number of places in training colleges offered to new entrants. Recent data are available concerning advanced teacher training colleges in England and which show that candidates with the required standard who were not able to find a place in the training colleges were only a very small proportion of the candidates who were not accepted.

Table 8, first line, shows that an effort has been made in England and Wales to admit the maximum number of qualified candidates. In Sweden, a vast effort has also been made to remedy the shortage of places in the practice teaching course for future specialized secondary school teachers. The "specialized training centres" in secondary schools under the direction of teachers in service - educational advisers - has made it possible to accept more candidates than the teacher training colleges, thanks to their flexibility.

In Sweden, many candidates for primary teacher training colleges have been turned away because of the lack of places rather than because of their qualifications. In view of the number of unqualified teachers, this raises a question of forecasting and planning resources.

An examination of the growth in the numbers of all student teachers (Table 10) gives, indirectly, an indication of the effort made by some countries to increase the number of places available in primary teacher training colleges.

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(1) The International Bureau of Education Surveys, *Shortage of Primary Teachers and Shortage of Secondary School Teachers*, publications Nos. 255 and 301, have brought out this problem.

TABLE 8

Qualifications of candidates who were not able to obtain a place in Colleges of Education in England and Wales (excluding post-graduate students)

	1963-1964	1964-1965	1965-1966	1966-1967
Unplaced candidates as a percentage of the total of qualified applicants accepted for admission	11.7	9.3	7	6
Those "acceptable" as a percentage of the total of unplaced candidates	11.0	10.0	7	6
Those "nearly acceptable" as a percentage of the total of unplaced candidates	21.0	30.0	26	24
Those "unacceptable" as a percentage of the total of unplaced candidates	68.0	60.0	67	70
Total	100.0	100.0	100	100

TABLE 9

Percentage trend of candidates refused places in the two types of training for secondary school teachers in Sweden

	College of Education	Special teacher and training Centres
1953	-	41
1954	-	31
1955	-	23
1956	-	30
1957	67	17
1958	76	20
1959	71	22
1960	69	12
1961	62	11
1962	62	8
1963	63	-
1964	0	0

TABLE 10

Growth in the total number of students in primary teacher training colleges 1960-1965

(1950 = 100)

	1955	1960	1965
Austria	100	136	254
Belgium(2)	118(3)	150(4)	204(5)
Denmark(6)	145(7)	203(8)	293(9)
France	127	192	221(5)
Germany(1)	135	277	385
Iceland	73	97	325
Irish Republic	134	176	185
Italy	180	173	286
Luxembourg	118	78	166
Netherlands	151	250	318
Portugal	116	181	119(5)
Spain	135	205	299
Turkey	97	148	303

(1) Source: Federal Bureau of Statistics.

(2) 1949-1950 = 100.

(3) 1954-1955.

(4) 1959-1960.

(5) 1964-1965.

(6) 1951-1952 = 100.

(7) 1956-1957.

(8) 1961-1962.

(9) 1966-1967.

Yugoslavia may also be quoted as an example. From 1955 to 1965, the total number of training colleges went from index 100 to 112. Whereas the index for advanced non-university training colleges went from 100 to 229, and for university institutions from 100 to 200, the index 100 for primary teacher training colleges (secondary level) fell to 83, in line with the effort to improve the standard of teacher training. The increase in the number of places indicated indirectly in Table 10 naturally includes the various sources from which student teachers are recruited.

- Diversifying sources of recruitment for teacher training colleges

The heavy demand for teachers, which has to be satisfied as rapidly as possible, has brought about a broader recruitment basis for candidates to training colleges preparing teachers for primary and/or lower secondary education. In most cases, this was done by allowing candidates holding the secondary school leaving certificate to take a training course in education. This course was naturally shorter than the general education and pedagogics course taken by pupils entering teacher training immediately after compulsory schooling, thus making teachers available to the schools with less delay.

Table 11 shows that some countries slowed down this type of recruitment once the demand for teachers became more stable.

TABLE 11

Trends in the numbers of primary school student teachers taking a short training course(1) shown as a percentage of all student teachers(2) preparing for primary schools(3)

	1950	1955	1960	1965
Continued increase				
Austria (certificate holders)	-	-	10	38
Denmark (certificate holders)	26	34	35	38
Netherlands (new entrants)	16	19	18	21
Turkey (certificate holders)	13	22	51	-
Recent decrease				
France (certificate holders)	-	28	22	18
Iceland (certificate holders)	30	29	55	42

(1) Certificate required for admission to training college: secondary school leaving certificate (except in Turkey: lower secondary school leaving certificate).

(2) The category of student teacher next in importance is generally recruited at the end of lower secondary school (except in Turkey).

(3) And at the end of lower secondary school in Denmark and Iceland.

- Candidates for admission to training college

The effort made to create new places or to increase the number of posts offered during competitive recruitment examinations, preceding the final stage of training, has not always been successful. The French example may be given, for the criteria for selecting secondary school teachers seem hardly to have changed in spite of the structural alterations made to this level of education. All the posts offered on admission to the regional pedagogic centres have not always been filled in suite of a high number of candidates in some specialisations. Thus, for literature, the trend was as follows for 1961-1964:

Posts announced		Candidates	Admitted
1961	2,000	2,532	1,857
1962	2,220	2,563	1,621
1963	1,753	2,390	1,488
1964	2,175	2,755	1,440

This is the situation for the highest competitive examination for direct admission to secondary teaching: the "aggregation". A very thorough study appears to be necessary, therefore, of what is required of candidates and of the standard of those who failed in comparison with the school's qualitative and quantitative teacher requirements. In any case, if all the unsuccessful candidates were really "unacceptable" it would be advisable to find out why teaching attracted so many insufficiently qualified candidates, and whether training and recruitment are adapted to need. In view of the reservations which can be made concerning the qualification standard of candidates for primary education, and the delimiting of recruitment due to the insufficiency of the places available, the number of candidates remained fairly high in some countries, as shown by the percentage of those who were successful in Table 12.

Once candidates have been accepted they must be promptly trained so that they can be available for teaching.

(b) Output of training colleges

Output would seem to depend on the criteria used for selection upon entry and the extent to which the curriculum is tailored to the teaching profession, and in certain countries on whether or not an accompanying obligation is entry into the teaching profession. Not enough information is available to describe how these conditions inter-relate. Some distinction should however be made between training given over a fairly long period in independent institutions to would-be primary teachers or lower-secondary teachers as opposed to the much shorter training for the long secondary course. In this latter instance, training is usually given to graduates from university education of considerably varying length. In the primary teachers' colleges, generally of secondary level, found in some Mediterranean countries, the output seems to be small. In Italy, some 30 per cent of entrants from 1953-1954 to 1955-1956 completed the course within the prescribed time. In Spain(1), the rate for the classes graduating in 1958, 1959 and 1960 was twice that recorded for Italy (i.e. 63 per cent), if the theoretical length of the course is considered. In Yugoslavia, the theoretical survival rate fluctuated between 63.5 per cent (the lowest recorded rate) and 71.5 per cent

TABLE 12

Percentage of admissions in relation to applications for entry into primary teacher training colleges

	1955	1960	1961	1962	1963	1964	1965	1966	1967
Denmark			78	79	71	67	68	73	74
France	30	36	31	29	33	33	-	-	-
Greece	40	52	-	-	-	-	-	-	-
Sweden:									
two-year course							42		
three-to-four year course							8		
middle-school course				33					

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(1) Mediterranean Regional Project, Country Reports: Spain, Paris, 1965.

(the highest recorded rate) from 1956 and 1960. The situation may be due to the percentage of repeaters: in Italy from 1953-1954 to 1962-1963 the average rate was 11 per cent during the first year, 13.5 per cent during the second, 7.9 during the third and 16.3 during the fourth and final year of study.

Repeat courses may depend on yearly examinations and final matriculation. In Italy, the percentage of successful candidates for the first-year examination averaged 79.5, during the second year 79.7, the third year 88.2 (between 1949-1950 and 1959-1960), and during the fourth and final year 78.1 (between 1949-1950 and 1962-1963). Lastly, students who drop out during the course reduce the numbers potentially available for teaching. In the Netherlands the drop-out rate is some 15 per cent, while the rate in Italy from 1953-1954 to 1959-1960 averaged 12.7 per cent the first year, 9.1 per cent the second year, 5.4 per cent the third year, and from 1953-1954 to 1962-1963, 8.5 per cent in the fourth and final year. Although no figures are available, the drop-out rate for Turkey is also thought to be high.

Generally speaking, the loss appears to be small during the year (or two years) of teacher training for university graduates. The inappropriate character of certain selection and training criteria at the level of recruitment tests held prior to entry into training institutions (or directly before entry into the profession may also be a factor. A case in point is Austria, where in 1963-1964, 39 per cent of the candidates failed to pass the secondary-teacher examination. In Portugal, too, failures are recorded in the final teacher training examination. Part-time training also results in considerable wastage. In the late fifties, for instance, in the Netherlands 66 per cent of the students dropped out of evening courses preparing teachers for boys' secondary technical schools. These few examples have to be considered in the context of the current situation concerning teacher requirements. On the whole, the consequences of this situation appear less serious for primary than for secondary education.

Where selection exists for admission to independent training colleges, and is made stricter because of the college's specialized vocational syllabus and teaching staff, the pass rate for student teachers appears to be high. In Denmark in 1966-1967, the percentage of students for the entire course who were behind schedule amounted to more than 2.5 per cent of total enrolment, while in recent years the drop-out rate varied between 6 and 3 per cent, depending on the field of study and the sex of the student. In the various types of teacher training in England and Wales, the pass rate between 1955-1956 and 1965-1966 was never under 95.4 per cent for boys and 96.8 per cent for girls. In Portugal, from 1950-1951 to 1959-1960 the rate was at no time less than 92.8 per cent. Whether or not the output is high, assignment to a teaching post is governed by the rules of each country.

In some countries, the teacher's certificate, which may also be validated by a designated agency, allows the young graduate to apply for a vacancy. In other countries, with a more centralized system, the number of available posts corresponds to that of students already selected on entering the training college, or posts may be assigned only after a recruitment examination unconnected with the award of a teacher's certificate. Thus in Spain, there were 19,272 candidates for 7,000 primary teachers' posts in 1962(1). This latter obstacle may also be a cause of failure and, in periods of shortage, itself prove a factor which speeds the process by discouraging prospective teachers or by increasing the number of uncertificated teachers which tends to push up leaving rates. As indicated above in connection with admission tests for certain types of training, some ambiguity persists as to the relationship during periods of shortage between numbers of candidates, numbers of posts and numbers accepted. Thus from 1961 to 1964 in France, the number of successful candidates for the "agrégation" in relation to posts available rose from 60 to 66.2 to 70 per cent in arts and from 41 to 45.37 to 57 per cent in science. There were twice as many candidates as science posts, and more than three times as many as arts posts, but the improvements noted are rather artificial as they were primarily due to the smaller number of available posts. To mention only primary education, in 1965 the growth in the number of graduates from primary teacher colleges was higher than that of enrolments in primary schools (Table 13), except perhaps in Portugal - following this country's efforts in 1960 or thereabouts. This is but an indication, however, since the number of new graduate teachers actually available will depend on whether or not they decide to enter the teaching profession.

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(1) Source: The Shortage of Primary Teachers, International Bureau of Education, Publication No. 255.

TABLE 13

Compared growth of pupil enrolments in primary education an[illegible]uate primary teachers 1950-1965

(1950 = 100)

		1955	1960	1965
Austria	pupils	89	87	93
	graduate teachers	70	96	179
Belgium	pupils	112(3)	118(4)	122(5)
	graduate teachers(2)	131(3)	178(4)	255(5)
Denmark	pupils (6)	120(7)	124(8)	125(9)
	graduate teachers(6)	135(7)	204(8)	302(9)
France	pupils	123(3)	147(4)	148(5)
	graduate teachers	132	208	224(10)
Germany(1)	pupils	75	79	86
	graduate teachers	101	104	120
Iceland	pupils	126	154	168
	graduate teachers	76	96	183
Ireland	pupils	108	108	112
	graduate teachers	109	126	156
Italy	pupils	97	93	92(5)
	graduate teachers	124	141	152(5)
Norway	pupils	131	140	131
	graduate teachers	108	158	258
Portugal	pupils	131	140	141(5)
	graduate teachers	107	172	115(5)
Spain	pupils	103	121(4)	125
	graduate teachers	131	213	250
Turkey	pupils	123	177	-
	graduate teachers	147	217	-

(1) Source: Federal Bureau of Statistics, excluding "Town-States".
(2) 1949-1950 = 100.
(3) 1954-1955.
(4) 1959-1960.
(5) 1964-1965 (Source: Educational Statistics Yearbook, Belgium 1965-1966).
(6) 1951 = 100.
(7) 1956.
(8) 1961.
(9) 1966.
(10) 1963.

(c) Entry rates of new graduate teachers into the profession

There are few countries where acceptance for teacher training compels the candidate to enter the profession, and in most cases graduates can accept or reject posts as they see fit. The higher the rate for women in certain types of training college the lower the immediate entry rate of young graduates into teaching. In the Netherlands, 10 per cent of graduates never enter pre-primary or primary education upon completing their course. In England and Wales 16.4 of women and 4 per cent of men are lost to education during the year which follows their graduation from teacher training college. In Greece, in primary education, refusals of posts grew from 4 per cent in 1955 to 17 per cent in 1963; although the share of women in the percentage of refusals is decreasing, it is still higher than that for men (87 per cent in 1955, 80 per cent in 1960 and 59 per cent in 1965). In secondary education refusals are still higher, and from 1960 to 1965 reached 27 per cent of all posts offered.

In addition to the high rate for women, alternative employment opportunities are significant. The specialized knowledge of secondary teachers may allow them definitely to enter some other profession. Thus in the United States entry rates of new graduate teachers are higher in primary than in secondary education, and in the latter vary according to subject.

When considering the teacher demand to be met, certain indicators may show the inadequacy of the new graduate supply. First, the ratio of newly employed teachers in specific subjects to newly trained teachers of these subjects can be calculated. Table 15 showing the situation in the United States in 1960 or thereabouts indicates that the four subjects where the ratio of newly engaged teachers to young graduates is greater than 1 (i.e. where new graduates did not suffice in filling vacant posts) include the three leading science subjects.

The inadequacy of the potential supply of mathematics teachers in the United States is confirmed if the proportion of teachers trained in this subject is compared to that in the teaching body. Thus in 1955-1956 some 13 per cent of secondary teachers taught mathematics. Between 1948 and 1960, the proportion of student-teachers majoring in mathematics in all student-teachers

TABLE 14

Percentage of teachers with standard teaching certificates teaching in their year of graduation in the United States 1955, 1960, 1965

	1955	1960	1965
Public primary and secondary schools	71.3	73.6	72.7
Public primary schools	81.6	82.2	81.2
Public secondary schools	62.9	68.1	66.0
English	69.4	73.5	70.1
Mathematics	67.3	74.2	73.6
Natural and physical science	56.4	67.5	67.0
Commerce	56.5	60.7	60.9
Home economics	65.7	65.5	63.8
Industrial arts	61.1	68.6	73.3
Agriculture	44.6	47.5	55.9
Physical education (women)	78.1	79.6	79.0
Foreign languages	60.0	69.6	67.8
Music	68.8	74.2	69.3
Art	65.9	70.5	64.6
Social studies	58.5	64.9	58.1
Physical education (men)	54.7	64.3	67.5

Source: Notes on Problems related to the Education of Profession, J. Froomkin and H. Hennigan, United States Office of Education (mimeographed document).

was only 5.3 per cent in 1950, 4.3 per cent in 1955, 7.3 per cent in 1960 and 7.9 per cent in 1965(1).

Finally, when annual flows into the profession can be broken down, an attempt may be made to discover the ratio of new graduates to all entrants. Table 16, which covers three countries, shows that other sources of recruitment have been tapped in order to complete the supply, which varies considerably according to the type of establishment, consisting of new graduates.

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(1) Source: For 1950, see the source under Table 15. For other years see the source under Table 14.

TABLE 15

Overall ratios of numbers newly employed to teach particular subjects to new teachers prepared to teach those subjects in the United States 1959-1960 and 1960-1961

	1959-1960	1960-1961
Mathematics	1.5	1.4
English	1.3	1.4
Physics	1.1	1.3
Chemistry	1.2	0.9
Physical education (women)	0.8	0.9
Home economics	0.7	0.7
Biology	0.6	0.7
Industrial arts	0.6	0.6
Social studies	0.6	0.7
Physical education (men)	0.4	0.3

Source: Teacher Shortages and Salary Schedules, J.A. Kershaw and R.N. McKean, The Rand Corporation, February, 1962.

2. Broadening the Basis of Recruitment

Various policies have been adopted to attract, retain or re-employ the certificated teachers required. In some countries, a special effort has been made to recruit women teachers and also specialists initially employed outside education. The actual position held in the profession by such women and specialized teachers should therefore be examined. This extending of recruitment sources, the basic conditions and methods of which are discussed in Part II, has been achieved only as the result of a series of special measures. Two of these - the use of part-time and non-permanent posts - can be dealt with separately and an attempt made to determine their extent by means of the quantitative data available.

(a) Position of women teachers

In view of present-day conditions, the use of women to make up the shortage - which in the United States during the

TABLE 16

New graduate teachers entering the profession as a percentage of total entrants in the Netherlands, Germany, England and Wales

	1952	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Netherlands(1)													
Primary	60.0	66.4	56.8	59.4	51.3	58.0	58.0	-	-	64.5			
Long general secondary							44.0						
Germany													
Primary									76.6				
Realschulen									30.6				
Gymnasia									67.6				
Vocational schools									66.7				
Technical schools									30.0				
Engineering schools									19.8				
England and Wales(2)													
Maintained primary and secondary schools										53.8	71.0	67.2	68.6

(1) Including entrants from military service.

(2) Qualified teachers only.

depression era resulted in the dismissal of married women from schools - does not seem likely to recur in the immediate future. In the first place, most countries find it difficult to recruit teachers and, in the second, it is mainly the teaching profession which offers the best working conditions (flexibility in service obligations) for women graduates.

A comparison of Tables 17 and 18 showing the percentage of women in the teaching profession, in primary and secondary education respectively, indicates that, unlike all other countries, Turkey has a lower percentage of women teachers in primary than in secondary education. This situation may be ascribed to social and educational conditions in many rural schools.

The levels and types of education to which one can be admitted by examination after an initial (generally primary) training, and which represent opportunities for promotion, also appear to be less favourable for women teachers. The proportion of women teachers in intermediate education (Realschulen) in Germany thus dropped from 46 to 45 per cent from 1962 to 1965, while in the Netherlands that of women teachers in the modern secondary short course is reported to have fallen from 23 per cent in 1950 to 20 per cent in 1965.

The expansion of the school system, in particular the facilities offered to girls in both secondary and higher education, naturally has a direct influence on the possibilities of recruiting women.

Lastly, some legislative bodies, whether for pedagogical reasons or to keep alive a certain notion of the profession, try to maintain a minimum flow of men teachers. Although this did not prevent the ratio of women teachers from increasing between 1950 and 1965, this change varies according to level and the proportion already attained at the beginning of the period.

Primary Education

In public primary education or sometimes public and private together (Table 17), of the 22 countries considered, the percentage of women teachers increased in 17. In absolute terms at least a

TABLE 17

Trends in percentages of full-time women teachers in primary education (public or public and private) in OECD Member countries

(1950, 1955, 1960, 1965)

	1950	1955	1960	1965
Increase greater than two points				
Germany(1) (public + private)	38	39	45	52
Austria (public + private)	54(2)	54	55	57
Denmark(3) (public)	41	43	46	50
(private)	49	47	50	51
France (public)	62	-	63(4)	66(5)
(private)	-	-	-	85
Ireland (public)	67(6)	69	69	70
Northern Ireland (public)	69	70	73	74
Iceland (public)	27	-	35	41
Norway(7) (public)	44	46	-	54
Netherlands (public + private)	46	47	52	52
Sweden(8) (public)	66	64	-	74(9)
Switzerland (public)	40(10)	42(11)	43(12)	-
Slight Increase (less than two points)				
England and Wales (public)	74	73	75	75
(private)	50	52	66	64
Scotland(13) (public)	84	84	84	86
Spain (public + private)	60	61	58(4)	61
Italy (public)	71	71	73	73(9)
(private)	89	90	90	92(9)
Portugal (public)	85	86	87	87(9)
(private)	-	-	-	88(9)
Yugoslavia (public)	57(14)	57(14)	58(14)	59(5)
No Change				
Turkey(15) (public)	26	27	24	26
(private)	-	79	79	81
Slight Decrease (less than two points)				
Japan (public + private)	49	46	45	48
Luxembourg (public)	50	51	50	49
Decrease greater than two points				
United-States (public)	91(16)	87	86(4)	85(17)
(private)	93(16)	-	94(4)	94(17)
Greece (public)	54(10)(14)	49(14)	45	45(18)
(private)	-	-	51	66(18)

(1) Grund und Hauptschulen (excluding the City-States).

(2) 1952.

(3) Primary and 1st (general) cycle of secondary education.

(4) 1959/60.

(5) 1962/1963.

(6) Not including excess teachers (usually women).

(7) Including continuation schools.

(8) Source: for 1950 and 1955: UNESCO Statistical Yearbook, 1958; including secondary classes and special classes attached to primary schools.

(9) 1964/65.

(10) 1951.

(11) 1956.

(12) 1961.

(13) Public and grant-aided schools.

(14) Source: UNESCO Statistical Yearbook, 1965.

(15) Source: OECD, MRP, Country reports: Turkey.

(16) 1949/1950.

(17) 1963/1964.

(18) 1966.

2 per cent increase was shown for six countries and a larger one for the other eleven(1).

By the end of the period, of the nine countries where the proportion of women teachers was below 50 per cent, only three remained below this figure. To these countries must be added two (Greece and Luxembourg) which have fallen back to below the 50 per cent mark. Thus five countries, including Canada and the United States, showed a percentage fall; in the United States the initial proportion was extremely high (91 per cent). In none of these countries has the actual number of women teachers decreased, but in all, they have simply grown more slowly than those for men. The gains noted in the majority of cases must not conceal the various national trends (made stronger by the varying degrees of difficulty in recruitment), which show a fairly wide percentage range of women teachers at the end of the period (from 26 per cent in Turkey to 87 per cent in Portugal).

Secondary Education

The percentage of women on the teaching staff in general secondary education is invariably lower (with one exception - Turkey-mentioned above) than in primary education, and this reflects the stage of development or democratisation reached by educational systems (number of girls in "long secondary"(2) and higher education for example) and the length of teacher training (in relation to that required for other professions open to women). Whenever possible, the percentages in Table 18 have been shown for level and type of establishment. Divergent trends will thus be noted in the same country as between long or upper secondary education and short or lower secondary education (Turkey, Switzerland, Germany, Northern Ireland). The information at present available does not indicate the factor(s) responsible for such a trend (democratization of admission to various types of school, geographic dispersion, variety of options offered, low rate of young women

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(1) In relative terms the gains recorded for women are even more significant. Thus over a period of 15 years Iceland (rising from 27 to 41 per cent) marked a gain of 51.8 per cent, while Portugal, which reached a rate of 87 per cent in 1964 (as against 85 per cent in 1950) hence shows but a 2.3 per cent gain.

(2) "Long secondary" indicates those types of secondary education from which pupils are most likely to go on to university e.g. the English grammar schools.

TABLE 18

Trends in percentages of full-time women teachers in general secondary education (public or public and private) in OECD Member countries(1)

(1950, 1955, 1960, 1965)

	1950	1955	1960	1965
Increase				
Austria (public)	31(2)	36	34	37
Spain (public)	30	38	43	-
(private)	35	38	39	-
France (long secondary-public)(3)	47	49(4)	53(5)	52(6)
Greece (public)	-	30	31	37(7)
(private)	-	36	39	41(7)
Italy				
1st cycle (public)	56	60	61	62(6)
1st cycle (private)	56	59	62	60(6)
2nd cycle (public)	45	48	50	55(6)
2nd cycle (private)	48	58	58	57(6)
Luxembourg (long secondary-public)	15	17	20	20
Norway (public)(8)	19	18	31	25
Netherlands (public + private)(9)	20	24	24	22(6)
Portugal (public)	43	50	56	60(6)
No change				
Ireland	-	-	51	51
Decrease				
United States (public)	56	51	47	46(10)
(private)	61	-	57	54(10)
United Kingdom:				
England and Wales (modern and other public)	45	45	45	41
(other private)	57	56	58	54
(grammar schools public)	46	45	42	40
(grammar schools private)	57	55	52	49
Scotland (public and grant-aided)	45	44	45	42
Yugoslavia (2nd cycle public) (11)	51	50	46(12)	46(13)
Different trends according to types of education				
Germany (public + private)(14)				
Realschulen	44	43	43	45
Gymnasia	31	32	32	31
Japan (public + private)				
1st cycle	24	23	22	25
2nd cycle full-time	-	18	18	18
2nd cycle part-time	-	15	13	11
United Kingdom and Northern Ireland (public)				
Intermediate Education	44	41	45	48
Grammar schools	49	47	47	46
Switzerland (public)				
Secondary Schools	12(2)	12(15)	11(16)	
Lower Intermediate	12(2)	12(15)	15(16)	
Upper Intermediate	16(2)	16(15)	15(16)	
Turkey				
1st cycle (private)	-	41	30	33
1st cycle (private)	-	-	54	56
2nd cycle (public)	41	47	44	44
2nd cycle (private)	-	-	42	47

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(1) By way of complementary information, the following are the percentages registered for the countries not included in the table: Belgium (State) : 39 (1964/65), private : 43; Denmark (2nd cycle public) : 28 (1966/67); France (short public education) : 51 (1961/62); Luxembourg (intermediate public education) : 21 (1966/67); Portugal (private) : 48 (1964/65); Sweden (public) : 39 (1964/65).

(2) 1951/52. (3) Long general secondary until 1960; then general secondary and long technical. (4) 1954/55. (5) 1959/60. (6) 1964/65. (7) 1963. (8) Traditional secondary until 1960; 1965 - includes upper section of comprehensive schools and folk high schools.
(9) Source : UNESCO Statistical Yearbook, 1968. (10) 1963/64.
(11) Gymnasia, training colleges, art colleges; Source : 1950: Statistical Yearbook, 1958; MRP Report, 1965: Statistical Yearbook. (12) 1958. (13) 1962. (14) Source : Federal Bureau of Statistics; excluding the City-States. (15) 1956/57. (16) 1961/62.

graduates working in education, or high leaving rate, recruitment representing promotion and affecting men in particular, etc.).

In 15 out of 28 cases considered (the trend covering at least ten years for whatever type of education was considered), the percentage of women teachers in secondary education is noted to have increased. The rate of increase varies; in absolute terms it ranges from 1 per cent in Japan to 17 per cent in Portugal. Calculated in relative terms, this increase in resources would be especially significant for countries where the percentage of women teachers was small (Luxembourg, Norway) or fairly small (Spain, Austria). Except for part-time teaching in upper secondary education in Japan, no fall in absolute numbers is recorded for any of the years considered. It is again in Japan in part-time upper secondary education that the percentage of teachers remains unchanged as it also does in Ireland. To a greater extent than in primary education, falls of from 1 to 10 per cent exist (in ten cases). Of these ten cases, seven consist of countries where initially over 40 per cent of teachers were women, and in only one case (Turkey, lower secondary) has the slower growth rate for women teachers compared with men caused the percentage of women to fall below 40 per cent.

In secondary technical education (Table 19), the recruitment of women teachers depends far more closely on the break-down by sex of pupils in the various schools (Austria is an example). The growth and diversification of technical education over the past 15 years has nevertheless resulted in a higher percentage of women teachers, except in Turkey and in the "further education" establishments of the United Kingdom. But these latter schools, in which many pupils are over 18, are far too unusual for any conclusion to be drawn from purely quantitative data.

The figures indicating these trends apply only to full-time posts. In some countries (such as the United Kingdom) the percentage of part-time posts held by women, whose number is increasing fairly rapidly, may somewhat offset the decreasing rate for women, particularly in secondary education. But the poverty of the data available (conversion to full time by sex) does not allow us to go any further than the general information appearing under (b) below concerning part-time posts.

Moreover, the trend in women-teacher rates may be due to different recruitment sources. Whereas in England and Wales

TABLE 19

Trends in percentages of women teachers(1) in technical secondary education in OECD Member countries

(1950, 1955, 1960, 1965)

	1950	1955	1960	1965
Germany(2)				
Part-time vocational (Berufschule)	37	36	33	30
Full-time vocational (Berufsfachschule)	59	57	56	55
Technical (Fachschule)	-	-	44	46
Austria (public and private)(3)				
Technical and vocational	4(4)	4	6	6
Business	40(4)	42	46	47
Domestic science	91(4)	94	92	91
Belgium (private)	-	-	-	53(6)
Spain (public)				
Technical baccalauréat	-	20	39	-
Business schools	8	22	21	-
France (public)				
Long technical secondary	-	-	37(5)	37(6)
Short technical secondary	-	-	38(5)	37(6)
Greece (public + private)				
Technical	-	3(7)	3	6(8)
Vocational			-	34(8)
Italy(9)				
Long technical (public)	39	43	44	46(6)
Long technical (private)	41	45	43	41(6)
Short technical (public)	40	42	38	42(6)
Short technical (private)	31	42	53	59(6)
Luxembourg (public)				
Short technical secondary	-	-	-	10(10)
Netherlands (public and private)	33(11)	34(7)	34(12)	-
Portugal				
Public	27	-	40	45(6)
Private	-	-	-	30(6)
United Kingdom(13)				
England and Wales				
Technical secondary (public)	30	31	30	31
Technical secondary (private)	44	34	35	27
Further education	-	15	14	15
Scotland (further education)	-	19	16	17
Northern Ireland (further education)	37	35	29	33
Switzerland (business schools)	14(4)	21(14)	19(15)	-
Turkey (public + private)	35	35	30	-
Yugoslavia: total				35(8)
Secondary technical			32(16)	
Skilled workers			20(16)	
Other vocational schools			40(16)	

(1) The data available rarely distinguish between full-time and part-time teachers; when full-time teaching can be identified this is indicated by a note.

(2) Source: Federal Bureau of Statistics; full-time teachers only.

(3) Full-time teachers only.

(4) 1951/1952.

(5) 1959/1960.

(6) 1964/1965.

(7) 1957.

(8) 1963.

(9) Not including practical instructors.

(10) 1966/1967.

(11) 1952.

(12) 1962.

(13) Full-time teachers only.

(14) 1956/1957.

(15) 1961/1962.

(16) 1958, **Source**: MRP Country Reports, Yugoslavia, Table 46.

TABLE 20

Percentage of women(1) among those returning to teaching in Germany, England and Wales

<table>
<tr><th></th><th>1961-1962</th><th>1962-1963</th><th>1963-1964</th><th>1964-1965</th><th>1965-1966</th></tr>
<tr><td>Germany</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Primary</td><td colspan="4">33.3</td><td></td></tr>
<tr><td>Realschulen</td><td colspan="4">11.1</td><td></td></tr>
<tr><td>Gymnasia</td><td colspan="4">44.0</td><td></td></tr>
<tr><td>Vocational schools</td><td colspan="4">74.0</td><td></td></tr>
<tr><td>England and Wales</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Maintained primary and secondary</td><td></td><td>82</td><td>82</td><td>82</td><td>82</td></tr>
</table>

(1) In the Netherlands, women returning to teaching cannot be distinguished separately as they are classified under the general heading of "Household Duties", and men who may return are not included in the available statistics.

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married women have returned to teaching in recent years, in Austria and Germany the increased percentage of women must be ascribed to an increase in the number of certificated teachers entering teaching immediately on graduation (Table 20). For general (primary and secondary) education as a whole, in Germany the increase for women was 2.7 times higher than that for men between 1950 and 1965. And in primary education during the most recent period the greater number of teachers is due solely to women, since the number of full-time men teachers remained stationary from 1961 to 1965.

An indirect reflection of the trend followed in secondary and higher education can be seen in the rates for women, broken down by subject in Table 21, showing that, except in two (Luxembourg and Belgium in 1965) of the ten cases recorded, fewer women are teaching science subjects than arts and/or special subjects.

Finally, in Tables 17 and 18 an attempt has been made to indicate the rates in private schools for certain countries. In general (primary and secondary) education, in three-fourths of the cases noted (20) at the end of the period, the rates for women are higher than in public education. A thorough study of the role and nature of denominational schools in private education, of the sometimes different objectives of private education at primary and secondary level, of the urban concentration of such instruction (Greece, Turkey), and of the more flexible methods of teacher recruitment might well help to explain this situation. Such surveys would perhaps show the reason for the several divergent trends in female teaching rates, between 1960 and 1965, in private and public education at primary level (Greece, Turkey, United States) and at lower secondary level in Italy. The higher rate for women teachers in private education should naturally be considered in relation to the percentage of all teachers in private education. The figures in the table show this to vary considerably, yet the private sector, allowing for different recruitment conditions, seems to have relied more than the public sector on a largely female teaching body.

(b) Use of experts previously employed outside education

A quantitative assessment of this contribution from outside sources has seldom been attempted. The proportion of such teachers is particularly high in science and technical subjects, due to recruitment difficulties during the past ten years. In secondary technical education, it is moreover customary to call on experts who have already had outside professional experience. The percentage of teachers from other sectors is hard to evaluate because many have contracts on an hourly basis, and are thus equivalent to part-time. Subject to such reservations, in France yearly contracts of this type for science subjects covered some 2 per cent of secondary teachers during 1957-1958 and 3 per cent in 1959-1960. In Sweden the percentage of such teachers may be assessed by an indirect method. In 1963, graduates - other than those from the faculties of arts and science (and theology) - and technical gymnasia certificate holders, accounted for some 3 per cent of all teachers engaged on an auxiliary or hourly basis.

Table 22 showing the source of teachers, indicates the importance of outside sources of recruitment in technical education.

TABLE 21

Percentage of full-time women teachers in general secondary education, by main subjects

	Sciences				Arts				Others			
	1950	1955	1960	1965	1950	1955	1960	1965	1950	1955	1960	1965
Germany (long general secondary) (1)	-	-	25	-	-	-	30	-	-	-	30	-
England + Wales(2)	-	-	-	29(3)	-	-	-	39(3)	-	-	-	37(3)
Austria(4) (long general secondary)	-	-	-	22(5)	-	-	-	38(5)	-	-	-	33(5)
Belgium(6) (long general secondary)	-	-	-	42(5)	-	-	-	41(5)	-	-	-	36(5)
France (long general secondary) (7)	43	46(8)	50(9)	51(5)	46	49(8)	53(9)	59(5)	62	55(8)	63(9)	49(5)
Greece (long general secondary)	-	11	-	16	-	39	-	52	-	33	-	31
Luxembourg (long general secondary)	10	15	14	21	15	15	20	20	15	25	26	19
Portugal (long general secondary)	-	-	52	50(4)	-	-	45	46(4)	64	53	60	66(4)
Sweden(10)	-	-	-	29(5)	-	-	-	47(5)	-	-	-	42(5)
Switzerland, Gymnasia	3	3	5	-	7	6	9	-	-	-	-	-
Teacher training	21(11)	21(11)	22(11)	-	32	29	32	-	-	-	-	-

(1) Source: J. Hillig, Lehrerbestand und Lehrernachwuchs der Gymnasien, Diss-Köln, 1964 (p. 268).

(2) University graduates teaching only in various secondary schools.

(3) March 1963.

(4) Public and private.

(5) 1964.

(6) State education.

(7) Including technical lycées for 1964-1965.

(8) 1954-1955.

(9) 1959-1960.

(10) University graduates (hence not including intermediate teachers of the comprehensive school receiving further training) in secondary education (except vocational schools).

(11) Business and science.

TABLE 22

Percentage of teachers from sectors other than education entering the teaching profession

	1952	1954	1955	1956	1958	1959	1961	1962	1963	1964
Germany										
Primary and upper primary							0.1			
Special education							1.7			
Short modern secondary							1.1			
Gymnasia							1.9			
Vocational schools							6.6			
Technical schools							24.3			
Engineering schools							66.7			
Netherlands										
Primary	4.0	4.8	4.6	3.5	6.2	4.2	-	2.6	-	-
General secondary	-	-	-	-	-	14.0	-	-	-	-

Since qualification standards are much more rigid in general education, when retired staff is called upon, for example, some of the teachers so recruited may be considered as unqualified. Thus in the Netherlands, among the 14 per cent from public and private sectors who were recruited for the long general secondary course in 1959, 63 per cent were deemed uncertificated.

(c) Growth in the number of part-time posts

It is difficult to assess the exact share of teaching completed by part-time teachers, owing to the impracticability of converting the number of their teaching hours into full-time equivalents, since most countries do not have such data. A very rough approximation of the educational resources thus made available can however be made by calculating the ratio of part-time teachers to all teachers (both full and part-time), that is, in "physical" terms.

Employment policy in primary education varies from country to country, but (in physical terms) part-time teachers are few (for example in Japan less than 1 per cent of the total establishment from 1950 to 1965).

Higher percentages are noted in countries which combine primary and lower secondary teachers. In Denmark, in 1966-1967, part-time staff accounted for 4 per cent of the total; in Yugoslavia for 2 per cent in 1959; and in Norway (primary and continuation schools) for 12 to 13 per cent in 1955 and 1960. This situation can primarily be attributed to the importance of single-subject teaching in lower secondary education. Table 28 (Yugoslavia), which makes no distinction between overtime worked by full-time teachers and the hours worked by part-time teachers, shows the proportion of overtime (for both types) to be only 20 per cent for general schooling (first four years) whereas it ranges between 19 and 41 per cent for single subjects taught mainly during the upper four years of single schools covering both levels.

It is in England and Wales, where the full-time equivalent for part-time teachers has been calculated that the policy of recruiting part-time staff seems to have produced results. In primary education the actual proportion went from 0.6 per cent in 1955 to 1.8 per cent in 1960, to 4.1 per cent in 1964 and 4.9 per cent in 1965.

In maintained general secondary education, England and Wales is again the area where the actual percentages can be measured: 2.1 per cent in 1955; 3.6 per cent in 1960; 6.1 per cent in 1965 (7, 5 and 5 per cent respectively in the technical departments of this level). In 1965 the full-time equivalent for part-time teaching in Northern Ireland amounted to 2 per cent.

In other countries where earlier statistics are available in "physical" terms only (Table 23), there is relative stability in the proportion of part-time teachers round about the average percentage, which varies considerably according to the country (from 5-10 per cent to 25-30 per cent of the total teaching body). The high figure for Luxembourg may be attributed to the introduction of intermediate education, with staff seconded part-time from other sectors of education; the importance of technical subjects in upper secondary education would explain their greater importance in Japan.

In technical and vocational education it is usual to call on a large number of experts who are engaged in other professions. A comparison of Tables 23 and 24 suggests that more use (in physical terms) is made of part-time staff in technical and vocational training. An extreme case is Greece, where almost all such staff consists of part-time teachers. A high percentage of part-time staff may mean that it is difficult to recruit full-time teachers. Moreover, the paucity of information makes it impossible to determine their qualifications; for example, in technical education in Greece it is proposed to replace part-time staff by full-time teachers in the years to come.

Even where part-time duties have not been institutionalized, the number of teaching hours indicates that some teachers are used only part time. Thus, in Portugal, if the actual timetable of teachers is compared with the legal minimum required, it will be seen that in 1961-1962, 41 per cent of State secondary teachers in classical education, 33 per cent in technical education and 62 per cent in agricultural education might be regarded as part-time teachers. This raises the question of the real extent of teacher utilization and the more general one of the output and efficiency of the educational system.

Generally speaking, the private sector has made far greater use of part-time teachers than the public sector. As evidence may be adduced the full-time equivalent figures available for England and Wales and for Greece (see Table 25).

TABLE 23

Part-time teachers (in "physical" terms) as percentage of total staff in public general secondary education (except Japan: public and private education including technical education at upper secondary level)

	1950		1955		1960		1965	
	MF	F	MF	F	MF	F	MF	F
Germany								
"real" school							8(1)	
Gymnasium							7(1)	
Belgium	-	-	-	-	-	-	8(2)	10(2)
Denmark (gymnasia)	-	-	-	-	-	-	8(3)	16(3)
Ireland	-	-	-	-	26	32	28	35
Japan:								
Lower secondary	5	6	5	7	5	8	4	7
Upper secondary full-time	-	-	11	16	12	18	12	18
Upper secondary part-time	-	-	26	29	25	35	23	34
Luxembourg:								
(long course)	-	-	-	-	-	-	16	21
(short course)	-	-	-	-	-	-	80(4)	81(4)
Norway(5)	28	-	27	-	34	-	29	
Northern Ireland (United Kingdom)	15	21	13	18	9	13	-	-
Yugoslavia(6)	-	-	-	-	18(7)	-	23(8)	-

(1) 1966, Source: Ständige Konferenz der Kultusminister, Dok. No. 30.

(2) 1964-1965, State schools.

(3) 1966-1967.

(4) 1966-1967, initial year of this type of education.

(5) Until 1960-1961: traditional secondary; 1961-1966: traditional secondary, grades 7 to 9 of comprehensive schools and folk high schools.

(6) Gymnasia, secondary teachers' colleges and art schools.

(7) 1959.

(8) 1962-1963.

TABLE 24

The proportion of part-time teachers (in "physical" terms) of total staff in State technical secondary education (except in the United Kingdom, where post-secondary education is included)

Percentages

	1950		1955		1960		1965	
	MF	F	MF	F	MF	F	MF	F
Germany								
Part-time teachers (Berufschule)	-	-	-	-	-	-	12(1)	
Full-time teachers (Berufsfachschule)	-	-	-	-	-	-	18(1)	
Technical (Fachschule)	-	-	-	-	-	-	19(1)	
Austria (as a whole) (2)	21(3)	24(3)	19	22	20	20	22	18
Technical and vocational subjects	9(3)	18(3)	8	16	10	18	13	22
Business subjects	26(3)	23(3)	28	23	31	26	37	29
Domestic science	32(3)	25(3)	28	21	25	17	23	14
Ireland	48	-	46	-	49	-	49	-
Luxembourg: long technical course	-	-	-	-	-	-	31(4)	-
short technical course	-	-	-	-	-	-	25(4)	40(4)
United Kingdom: England and Wales(5)	-	-	-	-	-	-	67	76
Northern Ireland(6)	56	46	59	55	62	64	68	69
Yugoslavia	-	-	-	-	-	-	30(7)	16(7)

(1) 1966, Source: Ständige Konferenz der Kultusminister, Dok. No. 30.

(2) Public and private.

(3) 1951.

(4) 1966-1967.

(5) Grant aided establishments for further education.

(6) Institutions for further education.

(7) 1962-1963.

During 1965, in England and Wales, part-time teachers represented only 6 per cent of the total teaching body in State general secondary education. In Greece very few part-time teachers are found in public education at this level (5.6 per cent in "physical" terms).

In general education women have mainly been recruited for part-time teaching posts.

TABLE 25

Proportion of part-time teachers, expressed as a full-time equivalent, in the total teaching body in private general secondary education (England and Wales and Greece)

Percentages

	1955	1960	1963		1965
	MF	MF	MF	F	MF
England and Wales	7	7	-	-	11
Greece			49	46	
Science			61	54	
Arts			42	42	
Religious instruction			36	32	
Other subjects			73	64	

Table 26 shows that, in four of the eight countries considered the proportion of women is above 50 per cent and in two others above 40 per cent,(in primary and lower secondary education in Japan). Yet, as a general rule, the ratio of full-time women teachers is usually smaller in secondary than in primary education. The relatively small percentage noted for Japan may be due to the extensive teaching of certain technical and vocational subjects. Where separate data for technical secondary education are available, the proportion of women teachers in relation to the entire part-time teaching body is smaller. But, as shown by Table 27, in Austria, the proportion varies according to the type of technical education considered. The highest percentages of part-time women teachers will thus be found in business and home-economics courses. An indirect indication of how successfully part-time teaching has been promoted in England and Wales is the large

TABLE 26

Percentage of women teachers in relation to the total part-time teaching body in general education

	1950	1955	1960	1965
Germany(1)				
(primary)	37	35	35	38
(general secondary) (gymnasium)	24	28	27	29
(general secondary) ("real" school)	44	42	40	35
Belgium				
(general secondary)	-	-	-	45(2)
Denmark				
(general secondary - gymnasia)	-	-	-	55(3)
Ireland				
(general secondary)	-	-	67	70
Japan				
(primary)	23	50	54	46
(lower secondary)	28	35	37	42
(upper secondary full-time)(4)		31	30	27
(upper secondary part-time)(4)	-	17	21	19
Luxembourg				
(long general secondary)	-	-	-	28
(short general secondary)	-	-	-	30(3)
United Kingdom:				
England and Wales (primary and general secondary)	-	-	-	87(5)
Northern Ireland (general secondary)	73	67	67	-
Yugoslavia				
(general secondary)(6)	-	-	-	21(7)

(1) Source: Federal Bureau of Statistics; excluding Town-States.

(2) 1964-1965.

(3) 1966-1967.

(4) This level includes technical and vocational subjects.

(5) 1963.

(6) Gymnasia, training colleges and art schools.

(7) 1962-1963.

number of married women employed on such a basis. In 1963, married women thus accounted for 90 per cent of part-time staff. From a more general standpoint the growing use of contracts stipulating hourly fees has promoted part-time work. Thus in Sweden, during 1963, in general and technical secondary education women accounted for 43 per cent of staff paid on an hourly basis whereas the total proportion of women in this type of education was only 37 per cent.

Limits and significance of the growth in the proportion of part-time teaching

The growth in part-time teaching does not always mean that the educational authorities have found a new way of correcting shortages of qualified staff. For general subjects (primary and secondary education), the large-scale use of part-time teachers, whose qualifications are not always known, may simply indicate that certificated staff is not available for full-time posts.

TABLE 27

Percentage of part-time women teachers in relation to total part-time teachers in technical education

Countries	1950	1955	1960	1965
Austria (as a whole)	49(1)	45	40	33
Technical subjects	9(1)	9	11	11
Business subjects	35(1)	33	38	33
Home economics	67(1)	67	59	51
Luxembourg	-	-	-	19(2)
United Kingdom(3)				
England and Wales	-	-	-	24
Northern Ireland	25	30	32	35
Yugoslavia	-	-	-	16(4)

(1) 1951.

(2) Short technical (1966-1967).

(3) Further education.

(4) 1962-63.

TABLE 28

Percentage of teaching hours in the form of overtime, broken down by subject and establishment, worked by part-time teachers in Yugoslavia in 1962-1963

Subjects	Elementary schools	Gymnasia	Technical schools	Agricultural veterinary schools	Economic, administrative and secretarial schools	Medical schools	Teacher training	Art schools	Schools for skilled workers
Combined subject teaching	19.8	-	-	-	-	-	-	-	-
Mother tongue	30.2	17.4	19.8	18.3	19.0	15.9	22.4	9.7	18.1
Foreign languages	37.2	23.5	24.8	19.3	25.8	21.0	29.3	16.2	-
(a) Russian	41.2	25.8	...	12.9	32.7	17.3	32.9	30.0	-
(b) English	30.6	23.4	...	25.6	28.8	18.7	17.3	17.3	-
(c) French	37.2	22.8	...	16.7	20.1	25.4	26.1	13.9	-
(d) German	37.5	24.6	...	16.8	28.1	23.1	15.5	8.7	-
Mathematics	37.0	29.4	29.1	28.6	30.0	11.1	30.1	10.3	22.0
Physics	39.5	27.7	29.0	29.5	-	20.4	28.1	0.0	28.4
Chemistry	33.7	19.7	23.4	18.9	-	14.9	21.2	0.0	14.7
History	28.2	16.4	18.4	7.5	19.3	19.3	18.5	1.4	19.6
Geography	25.3	17.6	22.1	14.0	21.3	10.0	16.9	10.5	-
Biology	32.2	15.0	-	11.1	-	16.1	19.9	-	-
Arts	27.7	17.4	-	-	-	-	14.5	-	-
Technical education	19.6	12.7	-	-	-	-	25.5	-	-
Physical training	19.0	19.8	27.5	30.0	27.3	37.8	28.0	55.5	32.2
Music	24.2	8.4	-	-	-	-	53.5	-	-
Home economics	22.7	-	-	-	-	-	-	-	-
Classical languages	-	21.4	-	-	-	46.8	-	-	-
Philosophy, Logic, Psychology	-	23.5	-	-	-	-	26.3	-	-
Pedagogic sciences	-	-	-	-	-	-	24.3	-	-
Total	24.1	21.4	28.8	24.1	23.3	37.6	22.6	32.5	20.3

This is true of Yugoslavia (Table 28), where part-time teachers are employed on an overtime basis. While it is normal to recruit a large percentage of part-time teachers in vocational schools, in general education on the other hand, such a procedure may point to the existence of shortages. Thus, still according to Table 28, the subjects in which the highest percentages of part-time teachers are found are the natural sciences, mathematics and physics, foreign languages and physical education.

(d) Non-established teachers

All educational systems provide for the temporary appointment of teachers to replace those holding permanent posts who are on leave of absence (by reason of illness, secondment, refresher courses, etc.). In addition, some countries where part-time posts have not really been institutionalized, co-opt specialists in various subjects, designated as "auxiliary" (in Switzerland) or substitute teachers, who teach for shorter periods than would normally warrant the establishment of a permanent post.

This initial situation has enabled many national authorities to meet requirements through a more expeditious appointment of personnel to vacancies. Such teachers have not, however, been granted the benefits attached to established posts. From 1950 to 1965 the percentage of non-established teachers in some countries continued to be high. This was due to the fact that the growth in school enrolments and the diversification of subject-matter called for more teachers whose class hours failed to warrant the creation of permanent posts; in addition, being unable to find qualified teachers for permanent posts, educational authorities have recruited university graduates (those holding a first degree, for example) who could not qualify for a permanent post because they lacked pedagogical training for theoretical and/or practical subjects. Moreover, in countries where a limited number of permanent posts are assigned following a competitive examination, the authorities have not created quickly enough the posts which the increase in pupil enrolments required. In this case, non-established teachers are not considered to be really certificated, administratively speaking, since they have not passed the recruitment examination. This has had the particular effect of creating a class of teachers who, of course, earn a smaller salary than their permanent colleagues, sometimes work longer hours and have less security in their job. What used to be an exceptional procedure to enable a teacher absent for a short time to be replaced has now become the rule in some countries, as shown in Table 29. The percentages of non-established teachers shown in the table, however, must be interpreted with caution. Wherever the figures fail to distinguish between full-time and part-time staff or where part-time teachers cannot qualify as established staff (Italy, Switzerland) the percentages are very high and do not fall in either general or technical secondary education. The few figures for primary education do, however, indicate some improvement. The heavy percentage recorded for Portugal is due to the inclusion of teachers on five-year probation, who are not permanently appointed until the end of this period, and of teachers assigned to posts officially occupied by non-established staff owing to the small number of pupils (under 35). Such considerations, of course, in no way attenuate the reservations warranted by the socio-economic effects of such a form of legislation. Finally, only in rare instances do the statistics provide any indication as to qualifications. In French primary education, the percentage of uncertificated teachers is included with that of non-established teachers (Table 47); in Italy (Table 51) all uncertificated teachers are non-established teachers, but in view of the recruitment and qualification conditions which the Italian authorities themselves propose to change, it would be unfair to claim that all non-established teachers are uncertificated. Some opportunity of acquiring permanent status exists to the extent that, under this type of legislation, certifcates of aptitude and recruitment examinations for mainly administrative posts are apt to overlap in order to test the knowledge gained at the training college.

While the notion of substitute or auxiliary teachers has made recruitment more flexible in times of shortage, an unhealthy situation, as in Yugoslavia (Table 28), may result. Moreover, if a large proportion of non-established teachers possesses the necessary qualifications for claiming established status, owing in particular to pedagogical experience acquired on the job, any continued existence of such a situation may hamper future recruitment, since the choice of a teaching career is largely determined by socio-economic prospects.

In the light of earlier discussion, it is clearly apparent that, in addition to newly certificated teachers, other sources of recruitment exist, whose importance varies according to the type of education, the country's school policy and the particular

TABLE 29

Trends in the percentages of non-established teachers
(public education)

	1950	1955	1960	1965
Primary Education				
Denmark(1)	-	-	-	8(2)
Greece	-	-	1(3)	-
Italy(4)	19	12	7	7
Luxembourg(5)	6	5	-	3(6)
Portugal	-	-	47	45(7)
Switzerland(8)	6(9)	8(10)	10(11)	-
General Secondary Education				
Lower: Italy(4) (as a whole)	73	70	73	73
of which:				
vocational schools	87	81	83	-
intermediate schcols	57	58	60	-
Switzerland				
secondary schools	-	-	10(11)	-
lower intermediate schools	-	-	35(11)	-
Upper: Denmark	-	-	-	12(2)
Italy(4) (as a whole)	53	47	48	55
of which: lycées, gymnasia,	42	42	43	41
scientific lycées	60	42	49	59
training colleges	57	56	55	66
Switzerland				
upper intermediate schools	16(9)	22(10)	35(11)	
business schools	32(9)	21(10)	32(11)	
General Secondary Education as a whole				
Greece	-	-	8(12)	-
Portugal	20	34	56	60(7)
Technical Education				
Italy(4) short technical course	71	81	84	92
long technical course	70	66	73	79
Portugal qualified teachers	-	-	78	81(7)
other teaching staff	-	-	68	75(7)

(1) Primary and lower secondary cycle: substitute teachers.
(2) 1966-1967.
(3) Temporary (1962).
(4) Non-established.
(5) Short or long-term contracts.
(6) 1963.
(7) 1964-1965.
(8) Auxiliaries.
(9) 1951-1952.
(10) 1956-1957.
(11) 1961-1962.
(12) 1962: temporaries (not including part-time teachers).

circumstances which determine such a policy. Thus in Table 30 the marked increase in the number of those returning in relation to total entries during 1962-1963 in England is the result of an additional year of teacher training. In countries marked by a surplus of teachers the number of those who return is, of course, very small. From 1961 to 1965, in Greece, the proportion of those returning was thus under one per cent of total entries into primary education. In an earlier paragraph we saw the weight of entries from other walks of life. The few figures available concerning flows failed to show other sources of recruitment in greater detail. In Germany, the figures for "other (undefined) sources" and "teacher exchanges between Länder" amounted respectively, in relation to total entries, to 14.0 and 3.2 per cent in primary education, 13.2 and 4.8 per cent in the Realschulen, 17.8 and 7.9 per cent in gymnasia, 8.7 and 6.9 per cent in vocational schools, 10 and 7.1 per cent in technical schools and 6.4 and 4.3 per cent in engineering schools. In the Netherlands, as a proportion of total entries into primary teaching, so-called "inactive" categories plus "unknown sources" accounted for 8 per cent in 1952, 4.9 per cent in 1954, 5.6 per cent in 1955, 3.4 per cent in 1956, 2.5 per cent in 1958, 3.2 per cent in 1959 and 1.3 per cent in 1962. In the long general secondary course 2.1 per cent of teacher entrants came from abroad.

Finally, any specific type of education may rely on yearly flows of teachers from other branches. The particular problems arising as a result of exchanges between levels of education are dealt with under Chapter IV (2) below. The part played by this sort of contribution varies considerably, depending on the type of education, as shown in Tables 76 and 77. Promotion linked to transfer seems to hold a greater appeal for men than for women teachers. Thus in England and Wales from 1962-1963 to 1965-1966, 4 per cent of all teachers entering State primary and secondary education came from other fields of education as against 3 per cent of women in 1962-1963 and 2 per cent in subsequent years.

The various methods used to increase recruitment may however affect the retention of teachers in the profession. The large ratio of women teachers thus tends to increase turnover rates, while the greater likelihood of recruiting less qualified or retired teachers, who may not always be offered permanent posts, is also apt to result in heavier turnover rates.

TABLE 30

Proportion of those returning to teaching as a percentage of total entrants to teaching
(Netherlands, Germany, England and Wales)

	1952	1954	1955	1956	1958	1959	1960	1961	1962	1963	1964	1965
Germany												
Primary								4.8				
Realschulen								4.5				
Gymnasia								2.5				
Vocational schools								5.0				
Technical schools								-				
Engineering schools								-				
Netherlands(1)												
Primary	8.0	7.9	11.7	13.4	14.1	12.7	7.2					
General secondary						4.7						
United Kingdom England and Wales (2)												
Primary and secondary							25.9	23.0	42.9	26.5	30.0	28.7

(1) Women only ("Household duties").

(2) Maintained schools.

3. Turnover in the Teaching Profession

Table 31 shows the yearly turnover rate in the profession. The rate for women is of course higher than that for men, except for primary education in the United States. Possibly this exception should be ascribed to the socio-economic status of American teachers and to employment opportunities outside the school system. In the Netherlands until 1960, and in England and Wales during recent years, the turnover rate for primary education has tended to rise. In England and Wales the rate was higher than that used when forecasting requirements. The rate may also vary according to region. In Canadian primary and secondary education it was 8.5 per cent in Alberta (1965), 10 per cent in Ontario (1963-1964 for primary education), 13.4 per cent in Manitoba (1965) and 15.1 per cent in Saskatchewan (1966)(1). The rate of course differs according to the percentage of women teachers in the type of education concerned. A breakdown by age-group and sex, and reasons for leaving must therefore be known, since younger women are apt to leave the profession when they marry and have children, and to return later, when the children are older. Graph 1, for Denmark, illustrates these points. Turnover rates also vary according to the type of teacher qualification. Table 32 shows the highest turnover rate for untrained graduates in England and Wales, indicating that greater teacher specialization at the time of training tends to restrict leaving for some other career.

Lastly, some types of educational specialization may enable the teacher to choose a career outside the profession. In Turkish technical education about 1962-1963, one-fourth of the graduates from advanced teacher-training colleges thus entered other professions(2). In the Netherlands in 1961, only 85 per cent of those graduating between 1956 and 1960 from boys' technical teacher training colleges and 65 per cent of those from girls' colleges were to be found in the profession. As shown in Table 33, the percentage of teachers who graduated from 1956 to 1961 and were still in the profession by 1961 varied according to the type of specialization certificate held.

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(1) Source: N. France, Teachers in Canada, Supply and Demand, (mimeographed).

(2) K. Yörükoglu: Teacher Training in Turkey, The Yearbook of Education, 1963,(The Education and Training of Teachers).

TABLE 31

Turnover rates in the teaching profession

	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Germany												
Primary schools										7.6		
Realschulen										6.7		
Gymnasia										5.5		
Vocational schools										5.4		
Technical schools										4.7		
Engineering schools										3.4		
Canada(1)												
Primary and secondary schools										10-12		
United States(2)												
Primary schools										17.0		
Men										17.3		
Women										16.8		
Netherlands												
Primary schools	6.0	6.1	6.9	7.5	7.6	8.1	8.3					
Long secondary course											6.3	
United Kingdom:												
England and Wales												
Primary and secondary schools(3)							7.7	8.2	8.3	9.2	10.0	9.9
Men							7.0	4.5	4.8	5.2	5.8	6.0
Women							10.2	10.8	10.9	12.4	13.2	12.9

(1) Source: N. France, Teachers in Canada, Supply and Demand, (mimeographed).

(2) Source: Shortage of Primary Teaching Staff, IBE Publication No. 255, (The rate seems accurate for the years around 1962.)

(3) Maintained.

Graph 1

PARTICIPATION RATES OF QUALIFIED STAFF TRAINING COLLEGE GRADUATES IN " FOLKSKOLA ", BREAKDOWN BY AGE AND SEX, IN DENMARK

(Number of t.t.c. graduates by year of graduation from t.t.c. teaching in folkskola in 1966/67 compared with total t.t.c. graduates of the same year)

3-year moving averages

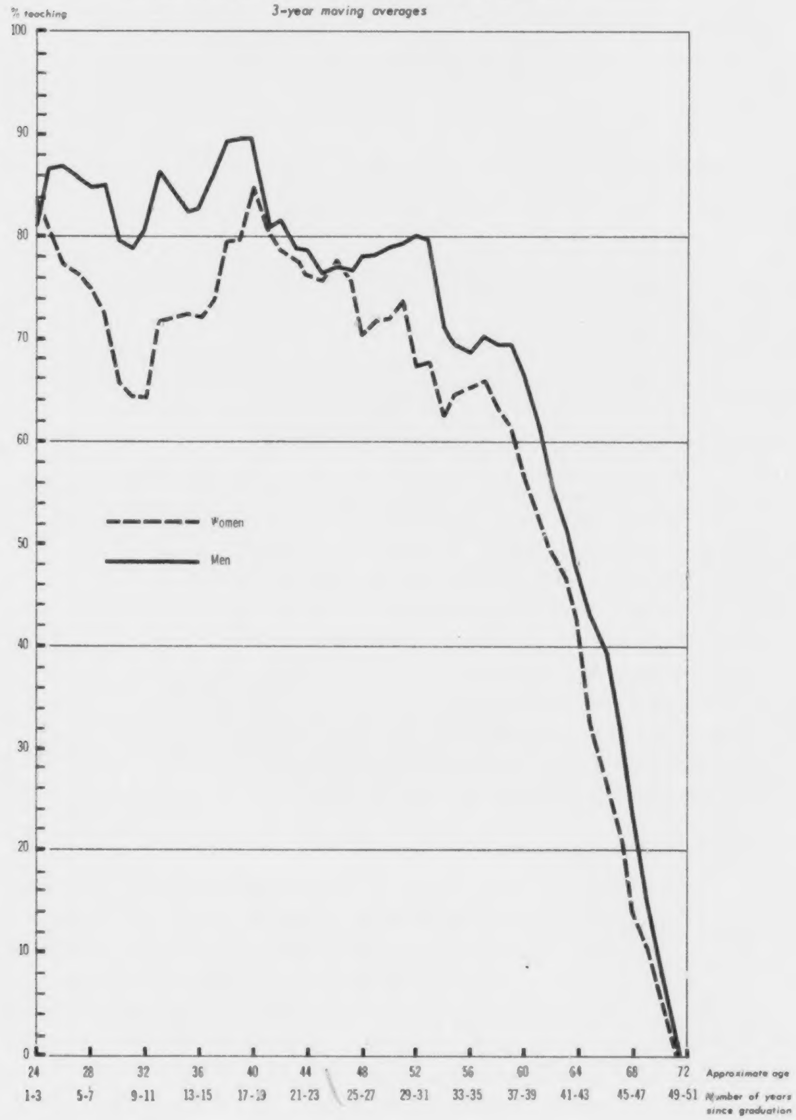


TABLE 32

Wastage of teachers in maintained primary and secondary schools in England and Wales; breakdown by type of training and sex

	Trained graduates		Untrained graduates		Non-graduates	
	M	F	M	F	M	F
1960-1961	3.6	9.9	11.1	25.6	3.3	9.9
1961-1962	4.2	10.4	11.8	21.2	3.8	10.5
1962-1963	4.9	10.5	11.1	21.5	4.1	10.5
1963-1964	5.5	11.7	11.6	22.0	4.3	12.1
1964-1965	6.3	13.0	12.4	21.9	4.8	12.9
1965-1966	6.5	13.1	12.2	23.1	5.0	12.5

Source: Statistics of Education - Teachers, 1966, Vol. 4.

A few detailed figures on annual turnover flows are given for two countries (Germany and the Netherlands) in Table 34. In the absence of any information on the demographic structure of the teaching body for each type of school no detailed analysis is possible. For each type of education considered, a further reason for leaving, not mentioned here, is transfer to some other type of institution. While for a specific type of education this may constitute a net loss, such transfers cannot be regarded as departures from the profession. Paragraph 2 of Chapter IV describes the particular effects of the process.

4. Availability of Full-time Teachers

Steps other than those specifically described above in quantitative terms have also been taken to increase teacher supply in order to meet the ever-growing demand and to fill the permanent or temporary gaps caused by those leaving that profession. It is hardly possible to assess the effect each has had in increasing the number of available teachers. Whether on account of such various measures or simply of natural trends in the system, redundancies have on occasion occurred. It is difficult, however, to determine their extent, since this would require a detailed

TABLE 33

Percentage of teachers graduating from technical teacher training colleges (1956-1960), still in the teaching profession in 1961, by type of speciality certificate, in the Netherlands

Female teachers	
Needlework	72
Simple needlework	82
Physical education	67
Dressmaking	77
Housekeeping	79
Cookery (Theory of)	58
Child care	50
Fashion and design	54
Cooking	39
Total	65
Male teachers	
Shipbuilding	100
Mathematics and navigation	100
Seamanship	100
Shoemaking	100
Metal works	90
Carpentry	92
Brick laying	93
Welding	85
Fine metal works	78
Electricity	83
Printing	86
Garment making	86
River navigation	64
Furniture designing	60
Plumbing and piping	50
Typing	25
Total	85

TABLE 34

Main causes of teacher turnover (except transfers inside education) in Germany and the Netherlands, as a percentage of total turnover

	1954	1955	1956	1957	1958	1959	1961	1962	1963	1964	1965
Normal Turnover(1)											
Germany											
Primary schools							30.3				
Realschulen							27.8				
Gymnasia							26.6				
Vocational schools							26.5				
Technical schools							38.6				
Engineering schools							60.5				
Netherlands											
Primary schools	20.2	21.7	20.0	19.8	21.7	22.3	19.6				
Long general secondary education						20.3					
Marriage(2)											
Germany											
Primary schools							10.1				
Realschulen							11.8				
Gymnasia							6.7				
Vocational schools							9.8				
Technical schools							-				
Engineering schools							-				
Netherlands											
Primary schools	24.6	21.0	19.4	17.4	31.8	33.8	34.2				
Long general secondary education						13.3					
Other Causes											
Germany(3)											
Primary schools							47.5				
Realschulen							49.7				
Gymnasia							59.9				
Vocational schools							48.1				
Technical schools							49.9				
Engineering schools							36.9				
Netherlands											
Primary schools(4)	31.2	31.4	34.2	36.6	15.8 (5)	16.6	16.8				
Long general secondary education(6)						38.9					

(1) Retirement, death.

(2) For the Netherlands, since 1958, both marriages and those leaving home are included. Before 1958 the latter cause was included under "other causes".

(3) Unsuited to teaching, departure to other Länder, other causes.

(4) To other professions, emigration, other causes, causes unknown.

(5) See footnote (2) above.

(6) To other professions, emigration, other causes, causes unknown.

examination of the actual size of classes throughout the country, the type and training level of the teachers concerned, and perhaps in fact, the financial resources available to the school system. Lack of such data, and the situation prevailing from 1950 to 1965, have led to an examination of deficiencies in the supply. In view of the information to hand, therefore, the extent to which available stocks of teachers (full-time only) has grown since 1950 will be shown.

Table 35, concerning primary education, shows that, from 1950 to 1965, in nearly half the countries listed the growth rate of pupils did not exceed that of teachers. Of the three countries which, by the end of the period, had not yet succeeded in reversing the negative trend, two (France and Iceland) appeared very near to stability.

Data for general secondary education are less plentiful; the situation appears less favourable than for primary education. In approximately half the cases examined, the position had yet to be retrieved in 1965 (Table 36). The figures should be interpreted with caution, however, since it has not been possible to include a full-time equivalent for part-time teachers. Staff employed in an auxiliary, assistant or substitute capacity may thus not appear in the statistics, which are apt to be sparse. For the same reasons the situation in technical education cannot be analysed.

The increase in enrolments in secondary education has had the effect of raising the percentage of secondary teachers in the combined primary and secondary teaching body. This trend (Table 37) is evident throughout the period in almost all countries. The additional data (in the notes) for some countries show that, by introducing available figures for short technical secondary education, the trend becomes even more marked. The process will continue for several more years, in the light of the staff requirements forecast by various national authorities for 1970 and 1975. Heavy requirements, combined with greater difficulties of recruitment, have not always allowed supply to meet demand, as suggested in Tables 35 and 36. An attempt must therefore be made to assess the shortage and its principal features.

TABLE 35

Comparative growth in pupil enrolments and in full-time teaching staff in primary education 1950 to 1965 (1950 = 100)

Inferior to that of pupil enrolments		1955	1960	1965
From 1950 to 1955				
England and Wales	pupils	115	104	105
	teachers	114	115	115
Denmark(1)	pupils(2)	120(3)	124(4)	125(5)
	teachers(2)	119(3)	147(4)	193(5)
Ireland	pupils	108	108	112
	teachers	103	108	112
Switzerland	pupils(2)	117(3)	121(4)	-
	teachers(2)	113(3)	122(4)	
From 1950 to 1960				
Belgium	pupils	112	118	122
	teachers	106	113	124
Norway(6)	pupils	131	140	131
	teachers	120	135	142
Netherlands	pupils	121	124	120
	teachers	116	123	128
From 1950 to 1965				
France	pupils	118(7)	141(8)	136
	teachers(9)	104(7)	122(8)	135(10)
Iceland	pupils	126	154	168
	teachers	116	144	166
Turkey	pupils	123	177	243
	teachers	117	170	235
From 1955 to 1960				
Spain	pupils	103	121(8)	125
	teachers	110	113(8)	128

Superior to that of pupil enrolments		1955	1960	1965
Germany (11)	pupils	75	79	86
	teachers	101	104	120
Austria (12)	pupils(2)	89	87	93
	teachers(2)	97	95	102
Scotland	pupils(13)	110	107	110
	teachers(14)	114	116	119
United States	pupils(15)	117	132	145
	teachers(15)	124	148	168
Northern Ireland(16)	pupils	109	103	102
	teachers	109	109	113
Italy	pupils	97	93	92
	teachers	106	118	122
Japan	pupils	110	113	87
	teachers	113	118	113
Luxembourg (17)	pupils	99	106	119
	teachers	104	113	124
Portugal (18)	pupils	131	141	141(10)
	teachers	141	164	176(10)
Yugoslavie (19)	pupils(20)	112(3)	143(8)	165(10)
	teachers(20)	153(3)	199(8)	242(10)

(1) Primary and lower secondary under "Folkstala".

(2) 1951 = 100.

(3) 1956.

(4) 1961.

(5) 1966.

(6) Including continuation schools.

(7) 1954-1955.

(8) 1959-1960.

(9) Evaluation of teaching staff in private education based on teacher/pupil ratio of 1-35 recorded in 1954-1955.

(10) 1964-1965.

(11) Source: Federal Bureau of Statistics; excluding Town-States.

(12) Including upper primary and special education.

(13) Including pupils in the 2 to 4 age-group and 12 years old and over in primary education.

(14) Including pre-primary education.

(15) 1949-1950 = 100.

(16) Including pupils under five years old and over eleven years old in primary education.

(17) Including upper primary education (and continuation schools in 1965).

(18) Public only.

(19) Eight-year schools.

(20) 1952 = 100.

TABLE 36

Comparative growth in pupil enrolments and in full-time teaching staff in general secondary education, 1950 to 1965

Inferior to that of pupil enrolments		1955	1960	1965	Superior to that of pupil enrolments		1955	1960	1965
From 1950 to 1955									
Germany(1)	pupils	142	142	172	Iceland	pupils	111	187	261
	teachers	137	160	189		teachers	113	196	310
Austria	pupils	129	135	146	United Kingdom: England and Wales (19)	pupils	112	155	159
	teachers	119	137	159		teachers	117	163	180
Denmark(2)	pupils(3)	115(4)	119(5)	149(6)	Scotland(20)	pupils	100	124	122
	teachers(3)	113(4)	133(5)	198(6)		teachers	119	139	155
Japan	pupils(7)	112	112	113	Northern Ireland (21)	pupils	130	244	309
	teachers(8)	109	113	131		teachers	131	247	351
From 1950 to 1960									
Switzerland(9)	pupils(3)	134(4)	152(5)	-					
	teachers (10)(3)	119(4)	145(5)	-					
From 1950 to 1965									
United States	pupils(11)	146	204	263					
	teachers(11)	125	167	225					
France (12)	pupils	122(13)	188(14)	258(15)					
	teachers	119(13)	155(14)	252(15)					
Norway	pupils	131	247	425					
	teachers	126	159	249					
Netherlands (ULO)(16)	pupils	124	196	218					
	teachers	116	176	210					
Netherlands (VGLO)(17)	pupils	292	331	300					
	teachers	252	269	267					
Portugal (18)	pupils	141	210	272(15)					
	teachers	122	179	234(15)					
Turkey	pupils	184	419	611					
	teachers	134	251	324					
From 1955 to 1965									
France(18) (short)	pupils	111(13)	205(14)	386(15)					
	teachers	126(13)	202(34)	357(15)					
Luxembourg (18)	pupils	127	179	210					
	teachers	132	157	183					

(1) *Source*: Federal Bureau of Statistics; excluding Town-States.

(2) Gymnasia (upper cycle) and any connected lower-cycle classes.

(3) 1951 = 100.

(4) 1956.

(5) 1961.

(6) 1966.

(7) Including part-time pupils of upper cycle.

(8) Including full-time teachers of part-time courses in upper cycle.

(9) Including schools of business and administration (at intermediate level).

(10) Not including auxiliary and home-economics teachers.

(11) 1949-50 = 100.

(12) Public schools only (including technical lycées).

(13) 1954-1955.

(14) 1959-1960.

(15) 1964-1965.

(16) Short modern secondary.

(17) Complementary primary.

(18) Public education only.

(19) Including technical secondary.

(20) Public and grant-aided.

(21) Including middle technical schools.

TABLE 37

Percentage breakdown of all full-time teachers in primary and secondary education(1)

		1950	1955	1960	1965	1970	1975
Germany(2)	primary			68(3)	68	67	
	secondary			32(3)	32	33	
				100	100	100	
	primary			59(3)	60	59	
	secondary			41(3)	40	41	
				100	100	100	
Austria	primary(4)	88	86	83	82	79	73
	secondary(5)	12	14	17	18	21	27
		100	100	100	100	100	100
United States	primary	65(6)	64	62	58	56	54
	secondary(7)	35(6)	36	38	42	44	46
		100(6)	100	100	100	100	100
France(8)	primary	79	77(10)	74(10)	64(10)	51(71)	
	secondary(9)	21	23(10)	26(10)	36(10)	49(11)	
		100	100	100	100	100	
Greece(12)	primary	-	76	79	-	70	
	secondary(13)	-	24	21	-	30	
			100	100	-	100	
Ireland	primary			78	75		
	secondary(14)			22	25		
				100	100		
Iceland	primary	72	72	65	57	53	52
	secondary(14)	28	28	35	43	47	48
		100	100	100	100	100	100
Japan	primary	54	52	52	44		
	secondary(7)	46	48	48	56		
		100	100	100	100		
Luxembourg(15)	primary	83	80	78	77		
	secondary	17	20	22	23		
		100	100	100	100		
Norway	primary	84	83	81	74		
	secondary(14)	16	17	19	26		
		100	100	100	100		
Portugal(15)	primary	93	94	92	91(16)	82	79(17)
	secondary	7	6	8	9(16)	18	21(17)
		100	100	100	100	100	100
United Kingdom:	primary						
England and Wales	primary	59	58	50	50		
	secondary(18)	41	42	50	50		
		100	100	100	100		
Scotland	primary	58	57	54	51		
	secondary(19)	42	43	46	49		
		100	100	100	100		
Northern Ireland	primary	80	77	64	56		
	secondary(19)	20	23	36	44		
		100	100	100	100		
Sweden(20)	primary		80	72	63(22)	56	
	secondary(21)		20	28	37(22)	44	
			100	100	100(22)	100	
Switzerland(23)	primary	75(25)	74(26)	72(27)			
	secondary(24)	25(25)	26(26)	28(27)			
		100	100	100			
Turkey	primary	85	83	79	80	76	76
	secondary(28)	15	17	21	20	24	24
		100	100	100	100	100	100
Yugoslavia(29)	primary				44(30)(16)	41(31)	39(32)
	secondary				56(30)(16)	59(31)	61(32)
					100	100	100

Notes: See next page.

Notes Table 37

(1) General secondary and technical education where the figures for the latter are available, but not including short technical education: where a figure can be obtained including the latter, it is indicated in the footnotes, except in the case of Germany where two sets of figures are given in the table [see note (2) below].

(2) This includes a full-time equivalent for part-time teachers but because of the complexity of the German school system two sets of figures have been given for Germany, their difference arising from the structure of secondary education. In the first figure for secondary education only the general education offered by the "real" schools and the "gymnasia" (not evening courses) is included; the second figure, given officially by the German Federal Republic (Standige Konferenz der Kultusminister) includes general and professional training within secondary education.

(3) 1961.

(4) Not including teachers of practical, aesthetic and religious subjects in primary education.

(5) General secondary; if full-time technical teachers are included the percentages are:

1950 primary: 82	1960 primary: 74	secondary: 18	secondary: 26
1955 primary: 78	1965 primary: 74	secondary: 22	secondary: 26

(6) 1949-1950.

(7) Secondary education as a whole.

(8) Public education only; 1954-1955 for 1955; 1959-1960 for 1960; 1964-1965 for 1965; 1972-1973 for 1970.

(9) Not including short technical education; including technical lycées, but excluding teachers of practical technical subjects.

(10) If teachers in short technical education are included, the percentages are as follows:

1955 primary: 73	secondary: 27
1960 primary: 70	secondary: 30
1965 primary: 60	secondary: 40

(11) Including teachers of training colleges not included in previous years.

(12) Public education only.

(13) General secondary education only.

(14) Not including technical and vocational education.

(15) Public education only; primary education includes continuation schools in 1970 and 1972; secondary education on these dates combines the preparatory cycle with general secondary education; the figures for teachers used for these forecasts refer to the normal growth trend.

(16) 1964-1965.

(17) 1972-1973.

(18) Including technical secondary but not further education.

(19) General secondary but not including further education.

(20) Excluding teachers of practical and aesthetic subjects not broken down the two levels.

(21) Including technical gymnasia and fackskola from 1965.

(22) The breakdown in 1965 would be as follows if vocational schools are included: primary 56, secondary 44, total 100.

(23) Public education, not including home-economics teachers and assistant teachers.

(24) Including business schools at intermediate level and schools of administration.

(25) 1951-1952.

(26) 1956-1957.

(27) 1961-1962.

(28) General secondary education; if technical and vocational education is included the percentages are as follows:

1950 primary: 78	1965 primary: 74	secondary: 22	secondary: 26
1955 primary: 75	1970 primary: 72	secondary: 25	secondary: 28
1960 primary: 72	1975 primary: 73	secondary: 28	secondary: 27

(29) Primary education: first four years of eight-year school; secondary education: last four years of eight-year school, gymnasia, teacher training at secondary level, art schools, technical schools not including schools for skilled workers; if these are added the percentages are as follows:

1965 primary: 42	secondary: 58
1970 primary: 38	secondary: 62
1975 primary: 36	secondary: 64

(30) For 1964-1965 combined subject teaching in the eight-year schools has been classified under primary education; single-subject teaching is classified under secondary education.

(31) 1969-1970.

(32) 1974-1975.

CHAPTER III

THE CHARACTERISTICS AND MEASUREMENT OF SCARCITY

Despite improvements in the traditional teacher supply and a diversification of recruitment sources, at certain times O.E.C.D. countries have been unable to meet demand. The number of teaching hours provided by certificated teachers under the traditional system (according to specific duties, i.e. time-tables and age of retirement, for a given average size of class at the beginning of the period) has been insufficient to meet requirements. Since the primary objective of the responsible authorities was to provide the schools with the minimum number of teachers consistent with the system's operation, as a rule it proved necessary to alter standards of recruitment and of teacher utilization.

Since such changes can be evaluated within the often very narrow range of available data, it was assumed possible to calculate the deficit (or possible surplus) of certificated teachers.

The significance of this deficit, however, is always relative. It is true that the full-time certificated teacher equivalent for overtime, and for hours of instruction by teachers who have reached retirement age, or by uncertificated teachers, can be computed. The factor required to assess the overall deficit is however missing - the factor regarded by many as essential but which can in fact be more flexibly handled by school authorities - namely the pupil/classroom ratio and, more roughly, the indirect result of this, the teacher/pupil ratio.

Deficits in terms of the full-time certificated teacher equivalent - without taking the teacher/pupil ratio into account - are easy to calculate since the basis used consists of compulsory rules (teaching duties and training standards) which can no longer be complied with. But the pupil/classroom ratio is not officially fixed once and for all, either to keep it from increasing or so that it can be reduced over a given period until a new level is reached on some particular date. Usually educational authorities either settle on a maximum size for classes, which normally means that they will be split up as soon as the limit is exceeded or fix an average target in terms of which they may decrease the pupils/class ratio in the coming years.

This means that a forecast of the number of teachers required may show a deficit (or surplus) for a given pupil/classroom ratio. If, however, a comparison between the forecast and the results shows a deficit, taking into account the ratio: pupils/class, its significance remains theoretical unless the authorities are able to make use of the possibility offered to them of varying this ratio. An increase in the ratio noted on a given date in comparison to an earlier position may then be interpreted as a decrease in teacher demand in relation to a theoretical target.

Hence the notion of a deficit is a matter of definition. If the aim is to introduce a normative value for the pupil/class ratio, or more roughly for the pupil/teacher ratio, then it will be extremely difficult to make any international comparison of real teacher deficits. This comparison might, in fact, be based on the practice in the countries, that is, on a comparison of the desired pupil/class ratio with the situation achieved on a specific date. Even then the standards would have to be known and not appear too idealistic (even if the target selected is that of the most advanced countries), since thus measured the deficit would no longer have much meaning. In this respect, the example of Greece seems significant. In 1961, the teacher/pupil ratio in general secondary public education was 1/40. The authors of the Greek report written under the auspices of the Mediterranean Regional Project based the deficit on a 1/25 ratio. Hence in theory the total deficit was about 42 per cent, 32 per cent in arts subjects, 39 per cent in mathematics, 57 per cent in physics and chemistry, 61 per cent in foreign languages, 65 per cent in home economics, 60 per cent in music and 37 per cent in physical education. The results of any a posteriori calculation of a theoretical deficit of qualified teachers should also be able to show the respective share of all the components making up the deficit. Some countries, however, do not have the necessary information. In France, for example, in 1964-65 the percentage differences between theoretical needs and staff actually teaching were as follows:

Primary education	- 3.9%
"Collèges d'enseignement secondaire"	+ 10.8%
Classical, modern and technical lycées	- 10.7%
of which: general and theoretical technical subjects	- 10.8%
of which: science subjects	- 2.3%
arts subjects	- 2.5%
artistic and special subjects	-105.8%
theoretical technical subjects (draughtsmanship, business)	- 37.9%
of which: practical subjects in technical lycées	- 9.5%
Technical colleges	- 18.1%
of which: general and theoretical technical subjects	- 29.3%
of which: science subjects	- 32.7%
arts subjects	- 33.5%
theoretical technical subjects	- 21.2%
of which: practical subjects	- 9.1%

This (theoretical) figure seems to be too low, since it is unable to account for overtime by full-time established teachers (whether certificated or not) or for instruction provided by certain part-time teachers paid on an hourly basis.

Another possible method of international comparison would be to fix an identical pupil/class ratio for all countries and compute the deficit according to the value of this ratio. But what value should be chosen? A theoretical value yet to be attained by almost all countries, or one which now prevails in the most advanced countries, or a mean value for all the O.E.C.D. countries, or mean values for a combination of countries according to a typology to be drawn up? The mere listing of these alternatives suggests the difficulties of such an undertaking, in which different national practices based on individual recruitment conditions, cultural traditions and ideals might largely be disregarded.

The struggle to overcome the shortage of teaching staff has in fact taken many forms. While adopting whatever measures the circumstances required, some countries have preferred one form of action to another. Within the limits of the available data this will be apparent from a comparison of the situation in certain countries, as shown by the following tables dealing with methods of action. It will immediately be seen that, in order to put teaching on a more individual basis in the comprehensive schools, the Swedish authorities have preferred to reduce pupil/class ratios by recruiting uncertificated teachers. The Danish authorities have chosen to institutionalize, in gymnasia, a process which discriminates in favour of overtime by available certificated teachers, while preference has been given by the Austrian authorities to the longer retention of a high pupil/class ratio and increased overtime rather than to the recruitment of uncertificated teachers. This explains why lack of information, combined with greater emphasis on one particular line of policy, rather than on another, has caused the idea of a deficit to be interpreted differently according to country. In some it has been assimilated to the full-time (certificated teacher) equivalent for overtime, in others to the full-time equivalent for hours of instruction by uncertificated teachers, etc., often by discounting possible reductions in pupil/class ratios. The weight to be given to the two main components (overtime and hours of instruction by uncertificated teachers) moreover can seldom be determined. The only sort of information available, for instance in Denmark during 1961, is that the 5,000 unit deficit in primary and lower secondary education was made good as follows: three-fifths by overtime teaching, one-fifth by student teachers during their training and one-fifth by uncertificated teachers (there were 25,097 established staff). Even the notion of uncertificated teachers may be questioned. As will be shown below, the shortage of staff in secondary education would be greater if their real capacity to teach the subject(s) assigned to them were considered. This specific example, or the fact that, in calculating pupil/class (or more usually pupil/teacher) ratios certificated as well as uncertificated teachers are included, reminds us that we are verging on the evaluative aspect of the problem.

The above arguments plead, in fact, for the very concept of a deficit to be rejected in discussing the situation from 1950 to 1965. It seems preferable to try to group the data available under the term of shortage, on the understanding that the various elements used by the countries to correct deficits at a particular time, and which may have served as yardsticks, will here be regarded as indicators of such a shortage. They will therefore also include measures which school authorities have reluctantly seen fit to take so that pupils would not be turned away from school. The shortage indicators which will successively be considered are: teaching vacancies (a largely administrative concept); everything coming under the heading of intensive utilization of teaching staff (pupil/teacher ratios, use of overtime and retired teaching staff); the extent to which uncertificated staff are used.

1. Teaching Vacancies

Recruitment difficulties may arise because a teacher meeting all the requirements cannot be found for a permanent appointment. This does not mean that an existing or future post will not "physically" be filled, however.

Throughout the expansion of education from 1950 to 1965, there were few countries where classes could not be held because a teacher, regardless of his qualifications, could not be appointed. In France it was estimated in October 1956 that 1.7 per cent of primary school posts had not been filled owing to lack of candidates, but premises were perhaps also lacking. In Portugal it was reported that a relatively large number of schools were still not operating because of the shortage of primary teachers in certain rural areas. In some parts of the United States it sometimes proved necessary to shorten the school year owing to the small number of teachers. It would however be useful to know how such a situation affected the slower development of certain subjects and streams in secondary education. In Turkey, the MRP Report points out, enrolments in schools of "social hygiene" (lower secondary level) have thus risen more slowly than in other types of education owing to lack of equipment and personnel.

The percentage of vacant posts may thus be an indication of shortage, since alsmost all countries have an establishment of permanent teacher posts. Actually this purely legal notion is far too limited, and as a rule applies only to public education. In private education contracts defining a legal relationship between individual parties extending over a prescribed period are more usual. The private sector makes greater use of part-time staff, with qualifications of a much more mixed kind than in the public sector. Thus, in Portugal, private institutions may be authorized each year by the Ministry of National Education to admit temporary uncertificated staff up to one-fourth of the total number, provided they show evidence that no qualified personnel can be recruited. In Portugal and in Spain it so happens, however, that teachers in private education account for nearly half all general secondary staff. Moreover statistics on private education are in general scanty, and fail to show the number of posts vacant when figures for posts are given. In the public sector vacancies do not always match the number of teachers actually recruited to operate the school system. When appointment is subject to recruitment by competitive examination for available posts, failure to create sufficient established posts may conceal the real number of vacancies. Established posts in most countries are assigned to full-time teachers, and an examination simply of vacancy percentages then fails to take the growth of part-time posts into account, just as overtime by established teachers is apt to be discounted. These few examples fit logically with the arguments concerning the measurement of real teacher shortages.

Notwithstanding these reservations, percentages of vacant posts in public education alone are a prime indicator of recruitment difficulties for the school authorities. From a specifically administrative standpoint the few data available illustrate the earlier conclusions regarding teacher supply trends, and highlight an aspect of the challenge to the educational system. Table 33 lists a few figures for general education. In some teacher categories about one-third of established posts remain unfilled (Sweden, Portugal). In France, Austria (both in upper primary and general secondary education) and Sweden, the posts left unfilled are mainly those of teachers of science subjects. In technical education the situation seems to have been even worse. A comparison of Tables 38 and 39 suggests that it deteriorated in France from 1957 to 1960, and that the improvement noted in Portugal from 1960 to 1965 still leaves a high percentage of vacancies.

The difficulty of filling posts varies not only with the subject but with the size of the school, and in certain specific cases, with the sex of the teacher. Table 40 illustrates this situation in the United States during 1961; it will be noted that secondary schools numbering from 1,000 to 2,500 pupils have less trouble there than others in recruiting teachers.

The largely administrative concept of what is a vacant post hence prevents this from being a favourable indicator of teacher shortages. Nevertheless, it gives some initial idea of recruitment difficulties.

TABLE 38

Percentage of posts vacant in general education in selected OECD Countries (1957-65)

	1957	1961	1962	1963	1965
Upper primary education					
Austria					11
Secondary education					
Austria (general secondary)					7
Spain (general)		30(1)			
France (long general)					
Science subjects	10				
Arts subjects	8				
Portugal (general secondary)					
Efectivos		14(1)			14
Auxiliares		51(1)			34
Contratados		16(1)			18
Sweden (general)(2)					
Theoretical subjects		37	37	30	
Practical subjects: fine arts, special subjects, etc.		4	4	3	

(1) 1960-61.

(2) Including upper section of comprehensive schools.

Source: Mediterranean Regional Project - Country Reports: Spain, Portugal, Table 52.

TABLE 39

Some percentages of vacant posts in technical education

(Austria - France - Portugal)

	1957	1960	1965
Austria (technical secondary)	-	-	5
France (technical lycées)			
General subjects			
Mathematics, science	21	23	
Arts	11	22	
Foreign languages		13	
Theoretical technical subjects			
Mechanical and engineering draughtsmanship	24	43	
Freehand drawing and applied arts	21	24	
Business and economics	15	30	
Practical subjects			
Technical teachers of single subjects	21	24	
Technical teachers supervizing practical work	12	17	
Assistant technical teachers (men)	11	19	
Assistant technical teachers (women)	6	18	
Business	11	24	
Home economics	28	27	
Social subjects	8	11	
Portugal (technical secondary)			
Efectivos	-	23	20
Adjuntos	-	58	44
Auxiliares	-	80	68
Contratados	-	-	18
Mestres	-	-	16

Source: MRP Country Reports: Portugal, 1966, Table 60.

TABLE 40

Unfilled positions as percentages of currently available posts in selected teaching fields in secondary schools in the United States (1961)

	Physical Sciences	Social Studies	English	Mathematics	Physical Education	
					Men	Women
School enrolment						
100 - 199	1	2	1	3	1	11
200 - 999	1	0	1	0	0	2
1,000 - 1,499	0	0	0	0	0	3
1,500 - 2,499	0	0	0	0	0	0
+ 2,500	0	1	3	5	0	0

Source: Teacher Shortages and Salary Schedules, J.A. Kershaw and R. McKean, The Rand Corporation, California, February 1962.

2. Intensive Utilization of Teaching Staff

(a) Increase in overtime

One of the most frequently used remedies to overcome shortage of staff is to make more intensive use of available teachers by means of overtime. All countries have made use of this device, but figures for such shortages measured in full-time equivalents are rarely supplied. Time comparisons are difficult owing to the lack of time series. The few examples appearing in Table 41 show that overtime may account for as much as 30 per cent of total demand (theoretical demand, i.e. the number of established teachers plus the full-time equivalent for overtime). The 30 per cent quoted for Denmark in 1966-67 for single-subject teachers in upper secondary education should be interpreted with reservation. The scheme introduced by the Danish authorities (see Part Two, Chapter III, paragraph 3(d)) indirectly to raise the pay of certain teachers results in a large amount of overtime. The extent of the latter is above all a measure of the effort made to attract and maintain part of the teaching body in education.

In the absence of more detailed information, proof of the extent of overtime is found in the percentage this represents in

TABLE 41

Overtime (expressed as a full-time equivalent) as a percentage of theoretical teacher demand in general public education

	Sweden (Autumn 1960)(1)			Greece (1963)(2)				Denmark (1966-67)(3)			Denmark(4)			
											1961		1966	
	% of total time	Full-time equivalent	Proportion of this equivalent in full-time demand %	Full-time equivalent		Proportion of this equivalent in full-time demand %		% of total time	Full-time equivalent	Proportion of this equivalent in full-time demand %	Full-time equivalent	Proportion of this equivalent in full-time demand %	Full-time equivalent	Proportion of this equivalent in full-time demand %
	MF	MF	MF	MF	F	MF	F	MF	MF	MF	MF	MF	MF	MF
Mathematics	8.8	169												
Biology	9.2	79		49	6	3	2							
Physics	10.2	102												
Chemistry	9.4	75												
Mother tongue	5.4	100												
Latin	7.8	14												
Greek	8.9	4												
English	6.0	102		25	12	<1	<1							
German	6.4	105												
French	6.8	41												
History	5.5	79												
Geography	5.1	40												
Religious instruction	3.9	28		8	2	<1	<1							
Other subjects				11	4	<1	<1							
TOTAL	7.3	938	7	93	24	1	<1	30.5	874	29.5	3,000	10.5	4,700	12.5

(1) Single-subject teachers in upper departments of comprehensive schools and in other types of general secondary education.
(2) Single-subject teachers in general secondary education.
(3) Single-subject teachers in gymnasia (full-time only).
(4) Teachers in primary and upper secondary education.

teachers' remuneration, as shown in Table 42. Overtime has increased in primary and upper primary education in Austria. Moreover, even in Greece, where very little overtime is worked, the largest number of hours is worked by science teachers. But in Sweden and Denmark, the next in line are teachers of foreign languages and of the mother tongue.

TABLE 42

Percentage of total salary representing overtime in Austrian and Danish general education

	Denmark(1)	Austria	
	1966-1967	1962	1965
Primary and upper primary education		0.2	4.8
General secondary education	27.1	2.5	8.0
Teachers:			
University graduates	31.0		
of which:			
Chemistry	44.5		
Physics	40.4		
Mathematics	35.3		
German	33.3		
English	32.2		
Danish	31.5		
Geography	31.0		
Greek	28.7		
History	26.5		
Latin	25.6		
Archeology	24.8		
Music and singing	23.8		
French	22.8		
Religious subjects	18.4		
Other graduates from higher education	26.6		
Graduates from teacher-training colleges	15.6		
Uncertificated teachers (trained other than in higher education)	4.8		

(1) In gymnasia only (upper secondary education).

(b) Utilization of retired teachers

Information concerning the retention or re-employment of teachers of retirement age is also hard to come by. The figures available seem to indicate that the proportion of such teachers is seldom more than 2 per cent of the total active establishment.

TABLE 43

Teachers who have reached retirement age as a percentage of total establishment (public)

	1955	1960	1962	1966
Sweden				
(Intermediate and upper departments of comprehensive schools; gymnasia)	-	-	1.6	-
Switzerland				
(Primary education)	1	1.3	-	-
Denmark				
(Gymnasia)	-	-	-	2

In the Netherlands, statistics of teacher flows show that retired teachers accounted for about one per cent of teachers newly recruited into the long general secondary course in 1959. In primary education the proportion of these teachers was as follows: 1952: 3 per cent; 1954: 1.1 per cent; 1955: 1.6 per cent; 1956: 1.7 per cent; 1958: 1.6 per cent; 1959: 1.8 per cent; 1962: 1.3 per cent.

But the concept of retired teachers is not always clearly defined. In this category may be included retired people from other sectors of activity who have not the qualifications required for teaching. Thus in the Netherlands one-fourth of the teachers recruited in 1959 were considered as not being qualified.

Private schools, where recruitment conditions are far more flexible, as a rule make greater use than public schools of retired personnel. Thus in Greece, where no recourse is had to retired persons in public secondary education, in 1963 4.5 per cent of the teaching staff in private secondary education were retired persons. These represented 6 per cent of those teaching science, 5 per cent arts, 3 per cent religion and 2 per cent other subjects.

(c) Trend in pupil/teacher ratios

As education is now organised one teacher is responsible for one class. Teacher demand will therefore largely be determined by the standards fixing the size of the class.

Pupil/class ratio

Changes in the pupil/class ratio which may not seem important, do in fact have considerable impact on demand. To give a simple example, for an enrolment of 100 pupils, three teachers are needed if the number of pupils per class is 33.5, four if 25 and five if 20. The number of pupils per teacher is but an indirect measure of the relation between the number enrolled and requirements, and it has been pointed out earlier that changes in pupil/class ratios have been used by many school authorities in an effort to gear the number of teachers to that of pupils. A reduction in pupil/class ratios may sometimes be hampered by the number or size of classrooms on hand, or by the financial impossibility of recruiting more teachers even if these were available. Subject to these reservations, it should also be added that the utilization of pupil/class ratios, in view of teacher requirements, takes on a different meaning according to the country.

Although the 1962 Act on educational reform in Austria provides for smaller classes, an amendment of 1965 allows existing standards to be maintained, denoting the desire of the authorities to refrain from increasing the number of uncertificated teachers despite persistent shortages. In the Netherlands the pupil/class ratio in traditional secondary education has increased; the average number of pupils per class rose from 20.0 in 1951 to 22.6 in 1960, and while a slight improvement occurred from 1960 to 1965 (22.0) the 1951 ratio has yet to be reattained. In Germany, from 1961 to 1965, the ratio in primary and upper primary education fell from 37.1 to 35.1. But during this same period it remained unchanged in the middle schools (Realschulen), as well as in the gymnasia, apart from a slight reduction midway between these dates which could not be maintained.

Sweden, however, considered that the success of the reform setting up comprehensive schools depended on more individual teaching, and the average class size decreased considerably from 1960 to 1965 in all three departments, as shown in Graph 2, i.e. from 23 to 20.5 for the lower department, 28 to 23.7 in the intermediate department and 28 to 25 in the upper department. It will be seen later that this policy could not be implemented without a fall in the level of teachers' qualifications.

Moreover, the mean figures may hide wide divergences in real size. Thus in German primary education, for an average classroom size of 35 pupils, 65 per cent of the entire enrolment was in classes which were larger than 35. Large differences also occur in a given level of education from one year to another. Thus in Germany in 1964, the average number of pupils per class in gymnasia was 27, but 60 per cent were in classes of more than 28. In England and Wales it proved possible to reduce the percentage of classes which were too large from 1955 to 1965.

TABLE 44

Decrease in oversize classes(1) as a percentage of all classes as registered in England and Wales from 1955 to 1965

	Primary	Secondary
1955	29.4	49.4
1960	16.0	53.5
1965	12.4	39.8

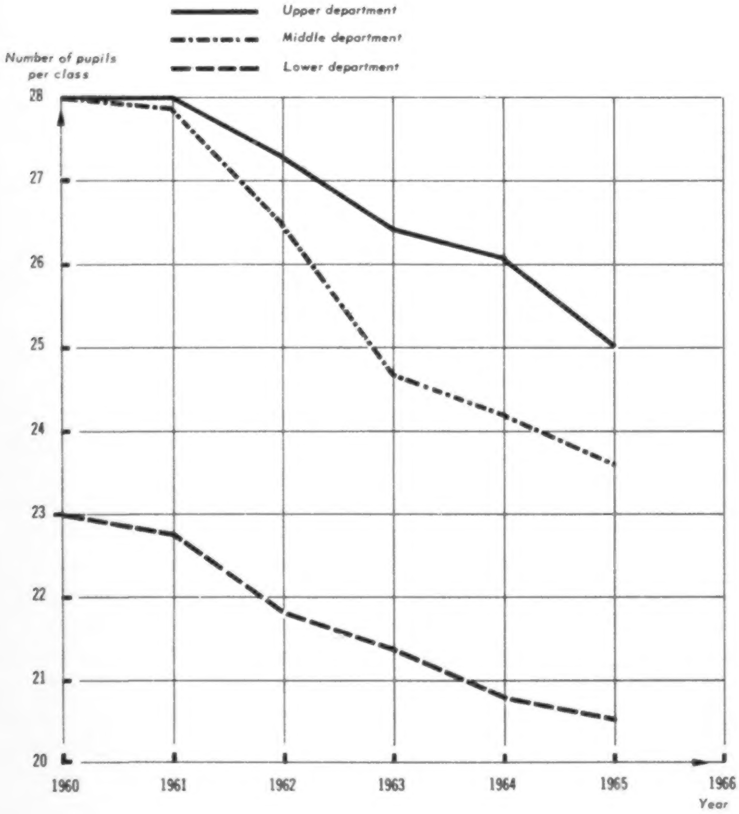
(1) The prescribed standard is 40 pupils in primary schools and 30 in secondary schools.

Pupil/teacher ratio

In the absence of more detailed information on the trend of pupil/class ratios, pupil/teacher ratios have been calculated as a substitute. Although of less significance than the former, this should at least provide an order of magnitude. Unfortunately the information is seldom detailed enough to allow the true values

Graph 2

DECREASING CLASS SIZES, FROM 1960 TO 1965,
IN THE DIFFERENT DEPARTMENTS OF COMPREHENSIVE SCHOOL IN SWEDEN



for this ratio to be calculated. It is of greatest significance in primary education since at international level primary teachers are employed full time. Nevertheless, an international comparison must be considered with caution, for the duties of teachers and the total number of teaching hours offered to the pupils, which are among the main factors determining teacher demand, vary according to national regulations.

Table 45 shows that an increase occurred in the ratio in nearly half the countries between 1950 and 1955 in primary public education. The population bulge moving into primary education during this period led to a shortage of personnel. By 1960 some ten countries had reduced their pupil/teacher ratio over the 1950 figure, and by 1965 only France, Ireland and Turkey had not got back to the ratio of 15 years earlier. Apart from such rare exceptions as Luxembourg and Ireland the improvement recorded from 1955 to 1960 continued from 1960 to 1965.

In secondary education the use of pupil/teacher ratios requires still greater care than in primary education since the full-time equivalent for actual services performed by teacher personnel is not known. In some statistics the numbers of full-time and part-time teachers are added together (Italy); the count may show too many if teachers hold classes in more than one school (Spain); some staff regarded as full-time actually teach part time (Portugal), etc. Moreover, because technical education is organised in several streams, in which courses are taught by different types of teachers with varying duties, it does not lend itself to this type of calculation. An examination of data for uncertificated teachers gives a more accurate picture of the existing shortage. Table 46 therefore simply contains a few details on pupil/teacher ratios in general secondary education. These confirm earlier information on recruitment difficulties encountered by the education authorities when enrolments in secondary education vastly increased. Between 1955 and 1960 pupil/teacher ratios increased, and by 1965 some had yet to get back to their earlier level. But all these figures, except those for England and Wales, must be approached cautiously so long as total teaching times cannot be correctly assessed from the available statistics. The few data covering pupil/teacher ratios relate to public education. Tables 45 and 46 show differences between public and private education. In primary schools (Table 45), for roughly one-half of the countries where it has been possible to break down the two

TABLE 45

Trends of pupil/teacher ratios in primary education

	1950	1955	1960	1965
Ratio rising between 1950 and 1955				
Belgium (public and private)	23.7	25.2	24.5	22.9
Spain(1) (public)	34.4(2)	40.0(3)	36.7	-
(private)	33.5(2)	36.1(3)	41.3	-
Ireland (public)	33.7	35.1	33.7	33.7
Iceland(4) (public)	27.0	29.4	28.9	27.4
Norway(4) (public)	28.7	31.2	29.8	26.5
Netherlands (public + private)	35.0	35.6(5)	34.7(6)	31.1
United Kingdom:				
England + Wales(7) (public)	30.0	31.4	29.2	28.3
(8) (private)	-	12.6	12.5	12.6
Northern Ireland (public)	32.5	32.6	30.6	29.4
Turkey (public)	45.0	47.7	47.6	46.9
(private)	-	17.9	19.2	19.5
between 1950 and 1960				
France (public)	25.2	29.4	29.5	26.5(9)
between 1960 and 1965				
Luxembourg (public)(10)	27.8	26.6	26.2	26.7
Ratio falling				
Germany (public + private)(11)	48.0	36.0	36.0	33.0
Austria(12) (public + private)	30.0	27.7	27.6	27.4
Denmark (public)(13)	32.0(2)	31.0	26.0	21.0
(private)(13)	36.0(2)	31.0	32.0	26.0
United States (public)(14)	32.8(15)	30.2	28.4	27.5
(private)(14)	35.6(15)	40.4	38.1	34.8
Greece (public)	-	51.0	40.0	38.5(16)
(privé)	-	31.0	30.0	28.0(16)
Italy (public)	28.6	26.1	22.9	21.4
(private)	29.0	25.4	21.0	23.0
Japan(4) (public + private)	36.5	36.0	34.9	28.3
Portugal (public)	40.6	37.7	34.7	32.6
(private)	-	-	23.4	25.7
Sweden (public)	-	23.6	22.2	19.0
Switzerland (public)	31.0(2)	31.0(3)	29.0(17)	-
Yugoslavie (public)	-	-	36.0(18)	31.0(9)

(1) Source: MRP Country Reports, Spain, Table 22.
(2) 1951.
(3) 1956.
(4) Not including part-time teachers.
(5) 1954.
(6) 1959.
(7) Full-time teachers only in 1950, then full-time teachers plus full-time equivalent for part-time teachers.
(8) Independent schools recognized as "efficient": the trend for such schools combining primary with secondary courses is as follows: 1955: 14.4; 1960: 14.5; 1965: 13.8.
(9) 1964. (10) Primary and upper primary.
(11) Source: Federal Bureau of Statistics; full-time teachers only in 1950 and 1955, then full-time teachers plus full-time equivalent for part-time teachers.
(12) Primary and upper primary, not including teachers of arts and crafts or religious subjects.
(13) Primary and first cycle of secondary education, number of pupils per certificated (from teacher training colleges) teacher: 1966 for 1965.
(14) Sources: Projections of Educational Statistics to 1975-76 , United States Department of Health, Education and Welfare - Office of Education, for 1955 to 1965.
(15) 1949/1950. (16) 1963. (17) 1961. (18) 1958.

TABLE 46

Trend of pupil/teacher ratios(1) in public and private general secondary education in various OECD Member countries

	1950	1955	1960	1965
United States(2)				
public	-	20.9	21.7	21.4
private	-	15.7	18.3	17.5
France				
short modern (public)	18.5	-	-	21.4
Greece				
public	-	36.0	40.0	34.0(3)
private	-	-	20.0(4)	-
Netherlands				
short modern (public and private)	25.6	27.4	28.6	26.5
Portugal				
public	-	-	22.2	23.0(5)
private	-	-	18.1	19.9(5)
England and Wales				
publicly maintained	-	20.6	20.8	18.7
non-maintained schools(6)	-	18.1	18.0	16.9(7)
independent schools(8)	-	11.9	12.0	11.3
Northern Ireland (public)				
intermediate schools	20.6	24.8	24.0	20.4
grammar schools	18.9	18.5	19.1	18.7

(1) Except in England and Wales, where this ratio takes into account the full-time equivalent for part-time teachers; the teachers concerned are full-time.

(2) Secondary education as a whole.

Source: "Projections of Educational Statistics to 1975-76", United States Department of Health, Education and Welfare, Office of Education.

(3) 1963.

(4) Evaluation: MRP, Country Reports, Greece.

(5) 1964.

(6) Direct Grant Grammar Schools.

(7) Lower secondary: 21.2; upper secondary: 16.3.

(8) Recognized as efficient.

sectors, the situation in private education appears to be less favourable than that in public education (although statistical questions may have some effect). In secondary general education, on the other hand, conditions seem better in the private sector (Table 46), even if a similar deterioration has been noted. But as will later be shown, the more flexible recruitment in the private sector does not always mean that the best qualified teachers can be engaged. And, in general, the approach to pupil/class or more briefly to pupil/teacher ratios is purely quantitative, that is, almost always it is all the teachers, regardless of their qualifications, who at a given moment are on active duty, who are taken into account. The use by countries of a change in pupil/class ratios as a regulating mechanism may thus at a given time indicate a shortage. But such ratios are now difficult to measure and cannot be separated from other shortage indicators, particularly those concerning the qualifications of the teachers recruited.

3. Uncertificated Teachers

It is mainly by calling on uncertificated teachers (according to the current administrative appointment rules) that school authorities have been able to keep a great number of classes going at the peak of recruitment difficulties. The concept of certificated and uncertificated is based on purely national criteria, and it would be rash to make any systematic comparison. In countries where a federal structure prevails the definition of uncertificated teachers may vary from state to state. Thus in the United States, in some of the States, the so-called substandard certificate may cover any certificate issued for three years, i.e. one corresponding to a probationary period. When there is a close link between establishment and qualification, as in Portugal, posts which do not entitle the holder to establishment are generally regarded as held by uncertificated staff. As the following tables show, teachers then considered to be uncertificated have successively or simultaneously been assigned to various levels and types of education.

TABLE 47

Percentage of uncertificated full-time teachers in primary education(1)

	1950		1955		1960		1965	
	MF	F	MF	F	MF	F	MF	F
Denmark(2) (public)	10	22	8	16	8	14	11	14
United States (public)	-	-	8	-	8	-	5	-
France (public)(3)	-	-	7	8	14	15	5	-
Ireland(4)	-	-	25	33	20	26	14	18
Iceland	-	-	-	-	-	-	15	12
Luxembourg (public)	-	-	-	-	-	-	2	3
Norway(5)	-	-	-	-	-	-	14	16
Portugal (public)	22	26	31	35	26	29	16(6)	19(6)
United Kingdom								
England and Wales(7)	-	-	3	4	3	3	3	4
Scotland(8)	-	-	3	3	4	4	6	6
Northern Ireland	14	20	3	5	2	2	1	2
Sweden (public)(9)	-	-	2	-	3	-	10	-
Yugoslavia(10) (public)	-	-	-	-	-	-	2(9)	-

(1) According to certification officially required; in some countries (shown in the notes), the percentage covers both primary and secondary education.

(2) Primary and lower secondary education; teachers regarded as "uncertificated" have not graduated from teacher training college, a definition which has the effect of increasing the percentage of "uncertificated" staff.

(3) Primary and continuation schools (short modern course).

(4) Including so-called "supernumerary" teachers; the percentage includes special schools and secondary instruction given in national primary schools.

(5) Including continuation schools.

(6) 1964.

(7) Primary and secondary education (publicly maintained schools).

(8) Public and grant-aided schools; uncertificated teachers.

(9) Estimated.

(10) First four years of elementary school (general teachers).

(a) Trend in the proportion of teachers considered as uncertificated

Primary Education

In primary education (Table 47) the countries for which data are available can be divided into two major categories. The first has a fairly high percentage of uncertificated teachers from 1950 to 1960, with a subsequent fall in this percentage (Portugal, Ireland, the United States and France). The second category consists of countries with a smaller percentage of uncertificated staff than the first. The percentage of uncertificated teachers may however remain fairly constant (England, Wales, Scotland) or tend to increase (Sweden, Denmark). Educational reforms, resulting in the transfer of staff with relatively all-round training from primary to lower secondary schools, may have made the use of uncertificated teachers absolutely necessary. Since the proportion of women teachers in primary education is usually extremely high, it may also have been difficult to replace certificated staff temporarily or permanently leaving their posts. The percentage of uncertificated staff is also seen to vary according to level of education or type of teacher considered. Thus in Sweden the percentage of uncertificated teachers was smaller in the lower than the middle department of the comprehensive school, both departments corresponding to the primary level in other Member countries (Table 48).

In Ireland, the State pays no grant for the group known as supernumerary teachers; this group is largely composed of women members of religious orders and has a lower standard of qualification than have other teachers (Table 49).

In all, nearly half (6 out of 13) of the countries listed in Table 47 were faced with a fairly serious teacher shortage in 1965 for primary (or primary and lower secondary) education, since the proportion of uncertificated teachers fluctuated between 10 and 15 per cent.

Secondary Education

Generally speaking there has been greater difficulty in secondary than in primary education in recruiting the qualified personnel deemed necessary by the system. Insofar as possible a distinction has been made between general and technical secondary education.

TABLE 48

Trends in the percentage of uncertificated teachers in Swedish primary education

(1955-1965)

	1955	1960	1965
Primary education	2	3	10
- Lower department	<1	1	8
- Middle department	3	4	11

TABLE 49

Trends in the percentage of uncertificated primary teachers according to category in Ireland

(1955-1965)

	1955	1960	1965
Total teachers	25	20	14
- Ordinary	23	18	13
- Supernumerary	70	68	67
Percentage of supernumerary teachers of total teachers	4	3	2

Apart from Ireland, the United States and Norway, in 1965, the number of uncertificated staff was greater in general secondary (Table 50) than in primary education. Except for France and perhaps Scotland, the situation, however, improved between 1960 and 1965. In some countries where lower secondary education can be distinguished from upper - whether this lower secondary level is in the form of comprehensive schools or of short modern secondary parallel with long traditional secondary education (with or without transfer possibilities to the traditional long course) - the recruitment of certificated teachers at this level appears to have been difficult (Table 51). This may be because lower secondary became part of compulsory education and teachers of single subjects were needed, who are usually more highly trained than

TABLE 50

Trends in the percentage of uncertificated teachers in general secondary education (traditional or upper secondary education)

	1950		1955		1960		1965	
	MF	F	MF	F	MF	F	MF	F
Spain(1) (public)	30	-	34	-	23	-	(2)	-
United States (public)	-	-	5	-	4	-	4	-
France(3) (public)	7(4)	9	12	-	13	15	27	29
Ireland(5)	-	-	-	-	16	19	12	14
Italy (upper secondary) (public)(6)	-	-	-	-	-	-	4	-
Norway(7)	-	-	28	54	-	-	6	9
Netherlands(8)(public and private)	12	-	14(9)	-	25	-	23	-
United Kingdom								
Scotland(10)	-	-	3	4	7	8	8	10
Sweden (public)(11)	-	-	18	-	24	-	13	-
Yugoslavia (upper secondary) (public)(12)	-	-	-	-	19(13)	-	17(14)	-

(1) Category of other teachers (i.e. not graduates of the university), thus includes certificated teachers for special subjects (religion, physical education).
(2) 44 per cent for public and private sector.
(3) Classical, modern and technical lycée.
(4) Excluding technical lycées.
(5) "Unregistered" teachers.
(6) Teachers with no specific certificate; classical and modern *licei* and teacher-training colleges.
Source: *Statistical Yearbook of Italian Education*, 1967.
(7) Including upper department of comprehensive school in 1965.
(8) Percentage of lessons by uncertificated staff; throughout the period such staff represented 33 per cent of all full-time and part-time personnel.
(9) 1954.
(10) Non-certificated teachers; public and grant-aided schools.
(11) Teachers of general theoretical subjects; university graduates; estimated figures.
(12) The proportion of uncertificated staff in subjects taught in gymnasia in 1964-65 was 22 per cent; in training colleges at secondary level it was 30 per cent; percentages in the table refer to gymnasia, teacher training colleges and art schools.
(13) 1959-60.
(14) Forecasts.

primary teachers. The shortage seems to affect far more than those countries where all lower secondary education is given in comprehensive schools (Italy, Yugoslavia and Sweden).

TABLE 51

Percentages of uncertificated teachers in lower secondary education or in the short modern course at this level in four OECD Member countries

	1955		1960		1965	
	MF	F	MF	F	MF	F
Italy(1)	-	-	-	-	17	-
Netherlands(2)	-	-	6	-	4	-
United Kingdom Northern Ireland(3)	1	2	2	2	1	1
Yugoslavia(4)	-	-	-	-	41	-

(1) No specific certificate.

(2) Modern secondary course; percentage of lessons by uncertificated staff.

(3) Intermediate secondary education.

(4) Upper primary education; teachers not holding a certificate in the subjects taught.

Thus in Sweden the shortage of university graduates in lower secondary education is 80 per cent, whereas demand for schools at this level amounts to but 60 per cent of total demand (not including vocational schools). In Turkey, the MRP Report states the proportion of auxiliary and part-time teachers in the middle schools has increased in recent years. In Austria the shortage is especially marked in upper primary education, where single-subject teachers are employed. These data are indirect evidence of the need to employ uncertificated teachers at this level.

Other indicators of shortage sometimes point to an extensive use of uncertificated personnel. Thus in Portugal a majority of so-called "eventuais" teachers have received no thorough

TABLE 52

Percentage of uncertificated staff in technical secondary education in five OECD Member countries

	1950	1955	1960	1965
	MF	MF	MF	MF
France (public)				
Technical lycées	-	20	12	(1)
Collèges d'enseignement technique	-	14	26	34
Italy(2) (public) (as a whole)				11
Technical education				6
of which: agricultural schools				9
industrial schools				8
navigational schools				10
business schools				4
land surveying schools				5
tourism schools				18
girls' schools				7
Vocational education				20
Norway(3)	-	-	-	48
Netherlands(4)	26(5)	25(6)	26	-
Yugoslavia (public) (as a whole)				67(7)
Technical schools				56(7)
Agricultural schools				49(7)
Medical schools				88(7)
Applied art schools				34(7)
Skilled workers' schools				69(7)

(1) Included in general education.

(2) Full-time and part-time: teachers with no "specific certificate" are regarded as uncertificated; technical teachers (except practical subjects).

(3) Full-time and part-time.

(4) Full-time and part-time; uncertificated and partly certificated estimates.

(5) 1952.

(6) 1957.

(7) Full-time only 1964-65.

pedagogical training, yet in 1960-61 this group represented 54 per cent of the teaching body in public general secondary education.

When it is possible to compare general and technical secondary education (Tables 50 and 52) it is noted that the staff needed for an expansion of technical education has been harder to come by. Caution however should be exercised in analysing the figures, since in engaging the services of staff in technical schools the criteria sometimes differ from those used in general secondary education. It is well to remember that particular emphasis is laid on the teacher's occupational experience, and that part-time staff is often used.

Hence the percentages in Table 52 do not always give an accurate picture, to the extent that full-time and part-time teachers were not always able to be separated, and the number of lessons required varies according to subject. In the Netherlands, although one-fourth of the teachers in all categories are considered to be uncertificated, the percentage of lessons given by uncertificated staff has changed (Table 53):

TABLE 53

Percentage of lessons given by uncertificated staff in technical education (Netherlands)

Type of technical education	1952	1957	1961	1967
Boys' lower technical schools	29	32	33	30
Girls' lower home economics schools	-	17	16	-
Boys' senior technical schools	-	-	14	-
Girls' medium-level home economics schools	-	22	26	-

Despite any reservations which may be made, it is clear that the percentages in Table 52 indicate an acute shortage of technical teachers up to 1965. Among the examples mentioned (except in Italian technical schools) the percentage of uncertificated staff ranges from one-fifth to more than one half of the teaching body. The information in this table and in Table 54 showing the position by subject also seems to show that the short vocational type of education (the training of skilled industrial or clerical workers) is in a less favourable position than the more theoretical technical courses. This, of course, applies only to the countries where such a distinction is possible (Italy, France, Yugoslavia, the Netherlands).

The situation for the various subjects

Specialized teachers in one or more subjects are employed in secondary education. Various figures are available which show the subject or subjects apparently most seriously affected by lack of certificated teachers. Table 54 covers subjects taught in general secondary education. The figures for Italy support the earlier indications given concerning the higher percentage of uncertificated teachers in lower than in higher secondary education. Mathematics and other sciences have been acutely affected by recruitment difficulties, roughly 40 per cent for mathematics in France in 1965 and thereabouts, 15 per cent in middle schools in Italy and 25 per cent in traditional secondary education in the Netherlands, while the figure for other science subjects ranges from one-fifth to one-third). At the same time, however, non-scientific subjects were sometimes hit even harder, e.g. foreign languages and mother tongue in the Netherlands (long course) and Italy (middle schools). Art and special subjects have often been taught by uncertificated staff (music in Netherlands traditional secondary education and manual training in France - recently more than 50 per cent, etc.). Table 54 also shows that some percentages of uncertificated staff remain steady over a fairly long period - ten years in the Netherlands, and, for those teaching art or special subjects, in France. While the situation in the Netherlands and France still appears unsatisfactory, the worst seems to be over.

In technical secondary education, apart from one exception (boys' senior technical schools in the Netherlands), the recruitment of certificated staff according to subject or group of subjects appears to have given more trouble than in general education. This is true of the general subjects taught in both types of school as well as of subjects taught only in technical schools. Tables 55 and 56 suggest that in arts and sciences (except in boys' senior technical schools in the Netherlands) the percentage of uncertificated staff is higher than in general education. The French

TABLE 54

Percentage of uncertificated staff (or hours of teaching by uncertificated staff) in the various types of general secondary education, by subject or group of subjects

	Netherlands							Italy				France								
	Long secondary course				Short modern secondary course			Upper secondary classical and modern	Upper secondary training college	Middle school		Long secondary course(5)								
												Classical and modern lycées						Classical, modern and technical lycées		
	1958	1964	1965	1967	1953-57	1960	1964	1964-65	1964-65	1961-62(1)	1964-65	1950		1955		1960		1963	1965	1966
												MF	F	MF	F	MF	F	MF	MF	MF
Classical languages	12	15	14	11																
Mother tongue	31	31	30	27				2	3	16	21							20.3	24.2	25.2
French } Foreign languages	41	37	35	31	1.7	6.0	2.9											17.7(7)	23.1(7)	22.8(7)
German } Foreign languages	32	36	33	22	1.9	5.5	3.0	5	7	33	11	6.5	8.3	8.2	10.8	10.7	13.9	18.2	21.7	21.6
English } Foreign languages	30	30	31	29	1.1	3.2	1.4											17.0	19.6	18.9
History	13	12	10	9																
Geography	22	19	18	19														18.3	21.0	18.9
Mathematics	28	25	25	25	8.0	13.2	8.1	5	7	19(2)	15(2)							37.8	40.5	37.0
Biology	35	27	29	26								6.2	8.2	8.3	10.5	16.1	17.6	24.5(8)	21.8(8)	13.6(8)
Chemistry	15	18	18	21				2(4)	3(4)											
Physics	26	33	33	33														21.3	26.6	22.2
Drawing	25	36	37	36																
Music	33	24	26	30							8(3)							17.7	18.5	20.6
Commerce	7	9	12	18	3.4	6.3	5.2					19 (6)	14 (6)	19.1 (6)	18.1 (6)	26.0 (6)	22.5 (6)	32.7	38.7	39.1
Civics	9	9	12	15																
Physical education	0	0	0	0	7.1	11.3	7.0											[51.1]	51.7	54.0[(9)]
TOTAL	23.5	23.8	23.3	22	-	6.1	3.5					7.3	8.9	9.1	11.3	13.4	15.7	23.7(10)	27.2(10)	26.0(10)

(1) Estimate.
(2) Mathematics and science.
(3) Art and music and "technical applications".
(4) Science subjects.
(5) Classical and modern lycées in 1950, 1955 and 1960; classical, modern and technical in 1965.
(6) Art and special subjects.
(7) Spanish.
(8) Natural sciences.
(9) Manual training.
(10) A few subjects involving a small number of teachers have been omitted.

TABLE 55

Percentage of uncertificated staff (or hours of teaching by uncertificated staff in the Netherlands) in long or upper technical education by group of subjects

	France: Technical lycées				Netherlands: Senior technical schools		Italy: Technical schools(5)
	1960		1965(1)		1957	1961	1964-1965
	MF	F	MF	F	MF	MF	MF
Arts	12.0	13.1	-	-	4(3)	6(3)	5
Sciences	22.1	18.6	-	-	18(4)	20(4)	6(6)
Theoretical	25.0	29.2	-	-	23	17	9
Practical	19.5	22.5	31.8	28.6	12	13	-
Other subjects	23.5(2)	18.8(2)	-	-	-	-	-
TOTAL	12.1	14.3	-	-	15	14	-

(1) Since 1960 information for technical lycées is combined with that for classical and modern lycées, except for practical technical subjects, which are taught only in technical lycées.

(2) Art and special subjects.

(3) General education.

(4) Exact sciences.

(5) Source: Statistical Yearbook of Education, Italy, 1966.

(6) Mathematics and science subjects.

TABLE 56

Percentage of uncertificated staff (or hours of teaching by uncertificated staff in the Netherlands) in short or lower technical education, by group of subjects

	France: Lycées techniques				Netherlands: Boys' lower technical schools				Italy: Vocational schools (5)
	1960		1965		1952	1957	1961	1967	1964-65
	MF	F	MF	F	MF	MF	MF	MF	MF
Arts	24.0	27.6	39.8	46.6	15(1)	18(1)	18(1)	11(1)	17(3)
Sciences	24.6	28.0	34.5	40.7	40(2)	48(2)	50(2)	38(2)	31(4)
Theoretical	29.3	34.4	30.9	36.4	36	51	43	45	28
Practical	26.4	30.0	32.4	41.0	24	28	35	33	-
Other subjects	32.4(6)	33.7(6)	41.7(6)	37.7(6)	-	-	-	-	-
TOTAL	26.4	30.5	33.9	40.8	29	32	33	30	-

(1) General education.

(2) Exact sciences.

(3) Arts and foreign languages.

(4) Mathematics.

(5) Source: Statistical Yearbook of Education, Italy, 1966.

(6) Art and special subjects.

example in Table 57 shows evidence of the greater difficulty in recruiting teachers of practical subjects taught only in technical secondary schools.

TABLE 57

Recent trends in the percentage of uncertificated staff in classical, modern and technical lycées for general and technical subjects and practical subjects (France)

	1963	1965	1966
General and technical subjects	23.7	26.8	25.4
Practical subjects	23.8	31.8	32.7
All subjects	23.7	27.2	26.0

The situation was hardly better for certain theoretical subjects also taught in French technical lycées. Although for many subjects the situation in 1966 showed some improvement over 1963, for practical subjects (Table 57) and engineering drawing (Table 58) the position continued to deteriorate.

TABLE 58

Recent trends in the percentage of certain categories of uncertificated staff employed in French technical lycées

	1963	1965	1966
Engineering drawing	31.9	34.4	37.5
Technical teachers of special subjects	19.0	36.3	28.7
Freehand drawing	32.7	34.0	29.9
Home economics	28.4	24.6	22.0

Discussions held at O.E.C.D. during confrontation meetings on the training and functions of technicians showed that all the countries which were reviewed met with considerable difficulties, both qualitatively and quantitatively, when recruiting personnel.

Moreover, for groups of subjects, the evidence confirmed that institutes training skilled industrial and clerical workers had the greatest difficulty. A comparison of Tables 55 and 56 shows that the position is worse for all groups of subjects in these establishments than in technical schools in all three countries.

If the supply of teachers dealing with technical (theoretical and/or practical) subjects is more difficult to adjust to demand owing to economic factors, the high percentage of uncertificated staff teaching general subjects in technical education brings out a specific problem of recruitment, perhaps related to the position itself of technical education (social status, working conditions) in the school systems.

Situation in private education

As a rule the percentages of uncertificated staff listed above apply to public education only. In general, the private sector is less exacting than the public sector in the matter of qualification. The authorities may require minimum standards to recognize the schools (Portugal, Spain), or to provide grants (France), but these may be far lower than in public education. This is the situation in Portugal(1). For the few countries for which information is available, Table 59 shows percentages of uncertificated staff in private education together with those of private teachers in relation to the total teaching body. A comparison with previous tables shows that uncertificated staff is more numerous in private education, allowing for the definitions adopted and the statistics available.

The situation concerning uncertificated teachers

Finally, there are more women than men who are considered as uncertificated. This is true for both primary education (Table 47) - except Ireland - and general secondary education (Table 50), and also for technical education in France (Tables 55 and 56), although perhaps not for all subjects. For example, for art and special subjects in general education (from 1950 to 1960), and for science and "other subjects" in technical lycées in 1960, the standard of qualification for women was higher than that for the total teaching body.

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(1) See: MRP, Country Reports, Portugal.

TABLE 59

Percentage of uncertificated staff in private education and percentage of teachers in private education in relation to total teaching body

	1950	1955	1960	1965
Denmark(1) primary and lower secondary	45	34	48	61(2)
(private teachers as % of total)	10	10	10	9(2)
Spain(3) general secondary	50	48	46	-
(private teachers as % of total)	80	79	76	-
France(4) primary	-	-	-	82(5)
(private teachers as % of total)	-	-	-	14(5)
short general secondary	-	-	-	36
(private teachers as % of total)	-	-	-	20
long general secondary	-	-	-	40
(private teachers as % of total)	-	-	-	31
long technical secondary	-	-	-	54
(private teachers as % of total)	-	-	-	-
short technical secondary	-	-	-	82
(private teachers as % of total)	-	-	-	42
Italy(6) lower secondary	-	-	-	16
(private teachers as % of total)	-	-	-	7
general secondary	-	-	-	11
(private teachers as % of total)	-	-	-	24
long technical secondary	-	-	-	7
(private teachers as % of total)	-	-	-	15
short technical secondary	-	-	-	16
(private teachers as % of total)	-	-	-	6

(1) Tea[illegible]n no training college diploma; this percentage certa[illegible]ncreases the percentage for uncertificated staff.

(2) 1966.

(3) Not university graduates; may thus include certificated staff in special and religious subjects and physical education.

(4) Teachers regarded as uncertificated are those not under government contract.

(5) 1964-65.

(6) Teachers with no specific certificate.

The heavier percentage of uncertificated women teachers may be attributed to the greater number of women substitutes or supply teachers recruited by the national authorities during peak shortage periods. Women were more easily available to meet requirements, even though their qualifications sometimes fell below the standards in force.

Student teachers

Part of the uncertificated staff recruited consists of student teachers, usually helped by the other staff. The concept of "non-certificated" may here also be regarded as over-strict, in view of the knowledge already acquired and the regular supervision involved. A distinction should however be made between student teachers from independent training colleges (who are to teach in primary and lower secondary education) and undergraduates in universities. The work of the former is followed much more closely, whereas the latter are usually specializing and some will not necessarily enter the profession. Little information is available. In Denmark and Italy the following percentages in relation to stocks (total stock and uncertificated staff) have been recorded (Table 60).

For 1959, in the Netherlands, a breakdown by previous activity exists showing flows of those entering the profession as teachers of the long general secondary course. Students or student teachers accounted for 40 per cent of newly appointed teachers and for 49 per cent of uncertificated staff. Many other countries have made use of students or student teachers but few figures are available.

(b) Teachers who are not certificated in the subject taught

In many countries the concept of certificate holder is closely connected with that of educational level, taking into account conditions of appointment. Much more rarely do statistics include among uncertificated staff those holding the diploma normally required for teaching at their level but who in fact take subjects outside their speciality. If secondary teachers are considered to need a university (or higher) degree in the subjects they teach, this type of information would show the extent of their competence in each subject, and thus indirectly allow difficulties of recruiting and utilizing certain categories to be measured. Except for lower general secondary education in Italy

TABLE 60

Student teachers employed in Italian and Danish education (1961 and 1966)

	1961		1966
	% of total number of teachers	% of uncertificated staff	% of total number of teachers
Denmark			
Primary and lower secondary education	4	50	-
Upper general secondary education	-	-	1.5
Italy			
Lower general secondary education	9(1)	48(1)	-
- Arts	10	63	-
- Foreign languages	7	23	-
- Mathematics and science	7	38	-

(1) This percentage applies only to the total of the three groups of subjects, which represented about 60 per cent of the teaching body.

(in 1961) and boys' senior technical schools in the Netherlands in 1959, data on this aspect of non-certification have not yet been included in the percentage of uncertificated staff shown above. They are based on special sample surveys (as in Ireland and the United States) and hence could be only tentatively aggregated with the earlier percentages for uncertificated staff.

The few examples available for general education (Table 61) and technical education (Table 62) tend to confirm the trends for staff considered as uncertificated. Even though substantial, the percentage of science and mathematics teachers in general education (Italy, Ireland) is exceeded by that for teachers of certain arts subjects (foreign languages, history, geography).

TABLE 61

Percentage of teachers in general secondary education not certificated in the subjects taught, in Ireland, Italy and Portugal (1961)

	Ireland	Italy		Portugal
			% of all uncertificated staff	
Total	16.5(1)	10(3)	65.3	5.6(4)
of which:				
Mother tongue	3	6(5)	37	
/English/	9			
Latin	4			
Greek	8			
History	32			
Geography	48			
French	12	26(6)	79	
German	10			
/Italian/	47			
Spanish	0			
Science	30	12(7)	63	
Mathematics	19			
Applied mathematics	8			
Business	18			
Agricultural science	5			

(1) General secondary education as a whole, in terms of weekly teaching time by teachers not having read the subject at the university.
(2) Lower public secondary education only.
(3) For the three groups of subjects only, or some 60 per cent of the teaching body.
(4) Public education.
(5) Arts subjects.
(6) Foreign languages.
(7) Mathematics and science.

Source: For Portugal, MRP Country Reports, Portugal. For Ireland, Educational Investment and Planning, Ireland, OECD, Table 10.10.

TABLE 62

Percentage of teachers in technical secondary education not certificated in the subjects taught, in the Netherlands (1959) and in Portugal (1961)

	Netherlands(1)		**Portugal(2)**
		% of all uncertificated staff	
Total	10	40	16.9
General education	49	47	
Vocational education	12	30	
Practical subjects	3	14	
Theoretical subjects	15	52	
Exact sciences	24	67	

(1) Lower technical secondary education for boys as a whole; in terms of lessons given by teachers certificated in a subject they do not teach.

(2) Public technical education.

Source: For Portugal, MRP Country Reports: Portugal.

TABLE 63

Percentage of lessons given in boys' lower technical schools by teachers not certificated in the subject they teach, Netherlands (1959)

		% of all uncertificated staff
Car repairing	2	50
Fine metal-carving	11	79
Metal	4	21
Agricultural machines	2	5
Shipbuilding	3	6
Technical drawing	20	56
Knowledge of materials	3	18
Construction theory	18	53
Projection theory	21	43
Arithmetic	6	35
Physics and mechanics	30	65
Dutch	2	22
Music	23	53
Theology	11	85
Foreign languages	40	87

TABLE 64

Percentage of teachers in public secondary schools teaching outside their major and minor fields, by size of school and sex of teachers, United States, 1961

School enrolments	Physical sciences(1)		Social studies(2)		English		Mathematics		Physical education	
	M	F	M	F	M	F	M	F	M	F
100 to 199	18	1	5	16	24	9	16	33	2	30
200 to 999	4	13	3	3	5	3	8	5	2	7
1,000 to 1,499	2	4	2	2	1	2	7	3	1	3
1,500 to 2,499	3	0	2	2	3	1	5	2	1	1
2,500 and over	0	0	0	1	2	1	2	1	1	2

(1) Chemistry and physics.

(2) History, geography, economic and social sciences.

Source: Teacher Shortages and Salary Schedules, J.A. Kershaw and R. McKean, The Rand Corporation, February, 1962.

TABLE 65

Percentage of teachers in public secondary schools teaching outside their major or minor fields, by sex and region (United States, 1961)

School enrolment	Physical sciences(1)		Social studies(2)		English		Mathematics		Physical education	
	M	F	M	F	M	F	M	F	M	F
Big cities										
200 to 999	4	0	2	8	4	2	11	6	0	0
1,000 to 1,499	0	0	0	0	0	0	0	6	0	5
1,500 to 2,499	4	0	2	0	2	2	12	5	0	0
2,500 and over	0	0	0	0	2	1	0	0	2	2
East										
100 to 199	31	16	9	38	19	13	38	12	16	0
200 to 999	6	7	5	10	10	8	13	18	7	6
1,000 to 1,499	5	11	3	0	1	1	11	2	3	6
1,500 to 2,499	2	0	3	1	3	1	2	0	0	0
2,500 and over	0	0	1	0	0	0	0	0	0	0
Midwest										
100 to 199	19	0	3	17	25	8	11	20	0	31
200 to 999	2	17	2	0	1	1	3	0	0	5
1,000 to 1,499	0	0	2	3	1	4	4	4	0	0
1,500 to 2,499	0	0	1	2	0	0	0	0	0	0
2,500 and over	0	0	0	0	0	0	3	0	0	0
West										
100 to 199	11	0	12	7	22	9	24	83	4	38
200 to 999	5	11	5	0	11	6	15	5	3	14
1,000 to 1,499	3	0	2	3	3	2	7	3	3	4
1,500 to 2,499	4	0	1	2	5	1	7	3	3	4
2,500 and over	0	0	0	7	6	0	10	9	0	6

(1) Chemistry and physics.

(2) History, geography, economic and social sciences.

Source: Teacher Shortages and Salary Schedules, J.A. Kershaw and R. McKean, The Rand Corporation, February, 1962.

TABLE 66

Percentage of male teachers teaching outside their major or minor fields: Private versus public secondary schools (United States, 1961)

School enrolment	Selected Teaching Fields			
	Physical sciences	Social studies	English	Mathematics
Big cities				
200 to 999				
public schools	4	2	4	11
private schools	7	6	7	10
East				
100 to 199				
public schools	31	9	19	38
private schools	21	21	25	34
200 to 999				
public schools	6	5	10	13
private schools	5	1	5	13
Midwest				
100 to 199				
public schools	19	3	25	11/19/3/25/11
private schools	6	0	3	6
200 to 999				
public schools	2	2	1	3
private schools	3	3	0	4
West				
100 to 199				
public schools	11	12	22	24
private schools	6	20	5	20
200 to 999				
public schools	5	5	11	15/5/11/15
private schools	0	0	0	0

Source: Teacher Shortages and Salary Schedules, J.A. Kershaw and R. McKean, The Rand Corporation, February, 1962.

In technical education, on the other hand, the Netherlands figures for boys' lower technical schools show that the exact sciences are most affected (24 per cent of total teaching staff), followed by theoretical technical subjects (15 per cent). At this same level, if individual subjects rather than groups are considered (Table 63), foreign languages again head the list and some theoretical courses (technical drawing, construction theory, projection theory) are given by teachers of whom one-fifth are not qualified in the subject taught; in physics and mechanics the figure is nearly one-third.

The use of staff qualified in one subject who teach another varies according to the sex of teachers and the size of the school, as shown in Table 64 for the United States. Generally speaking the smaller schools have a higher percentage of teachers taking other than their own subjects, since they are asked to teach several classes. The teacher shortage seems to be acute not only in mathematics and the physical sciences but in English and social studies. In some subjects (mathematics, physical education) the shortage of women teachers is also considerable.

These initial examples show that regional imbalances exist. Table 65 for the United States as a whole indicates that, while the big cities have less trouble in recruiting qualified staff, they experience difficulty in finding men to teach mathematics and, to a less extent, the physical sciences. Certificated women teachers of mathematics and physical education are also hard to recruit in some regions and according to the size of school.

Differences between public and private education depend on the latter's characteristics. When private education corresponds to the needs of a homogeneous community demanding teaching of a high quality and willing to spend the money to achieve it, then the recruitment of staff teaching the subjects they are trained in tends to be easier than in public education. This occurs in the United States, as shown in Table 66 for men teachers (a similar trend is also noted for women teachers). On the other hand, when private education caters to a much broader, less uniform type of consumer the situation is worse than in public education. Thus in Portugal in 1961-62, 34 per cent of the staff in private general secondary education taught subjects in which they were not certificated(1).

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(1) Source: MRP Country Reports, Portugal.

TABLE 67

Percentage of teachers who have neither majored nor minored in the subject taught, in two States and a big town (United States, late 50's)

	California (1)	Los Angeles	Ohio
Mathematics	35	42	-
Physics	8(2)		67
Chemistry			35
Commercial course	13		
Foreign language	13		
Social studies	12		
Language arts	11		
Industrial arts	10		
Vocational arts	8		
Art	7		
Physical education	6		
Music	1		

(1) Percentage of pupils taught by teachers without major or minor in the subject.

(2) Science.

Source: Teacher Shortages and Salary Schedules, op. cit.

The trend brought out by the percentages in Table 65 for the whole of the United States concerning mathematics and science teachers is borne out by figures received from various individual States. At the end of the Second World War, in 1946-47, 40 per cent of mathematics teachers in Colorado were teaching outside their major or minor fields, a situation which is confirmed in the late fifties for two States and a major city (Table 67). Moreover some staff had never taken a single course during their higher education in the subject they taught. This is true for 7 per cent of physics teachers in Wisconsin, 7 per cent of mathematics teachers in Maryland, New Jersey, Virginia and at Los Angeles, and 2 per cent of mathematics teachers in Kansas. In Ohio some 8 per cent of physics teachers, 3.5 per cent of chemistry teachers and 3 per cent of biology teachers had never obtained credits in the subjects taught(1).

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(1) This information has been taken from Teacher Shortages and Salary Schedules, op. cit.

CHAPTER IV

SOME SPECIFIC CONSEQUENCES OF RECRUITMENT DIFFICULTIES

The various shortage factors discussed above have been dealt with only at a national level. This situation conceals considerable disparities between regions. Countries with a federal structure where education is controlled by the individual states are not the only ones where such disparities occur; countries with a more centralized structure have tried, at an early stage, to devise a policy for the spreading over of shortages (see Part Two). Another consequence of the rapidly developing need for various categories of teachers is the stiff competition among various types of education to attract the best staff, and some levels of education have suffered greater loss than others. Finally, without being able to draw definite conclusions, in addition to the data above on percentages of uncertificated teachers, it would be advisable to examine any influence this period might have had on the duration and level of teacher training. Lack of statistics of a qualitative nature here, as elsewhere in this report, radically limits analysis of these three points.

1. Regional Inequalities in the Allocation of Qualified Staff

The uneven distribution of qualified staff over the various types of establishments throughout the country can be measured by the same shortage indicators as those considered above. Certificated teachers in some regions can be used more intensively (overtime, changes in pupil/classroom ratios). The number of uncertificated teachers it is possible to use depends on the establishment.

(a) Overtime

Little is known about the breakdown of overtime by region since each establishment enjoys a fair amount of freedom of decision in this field. In Greece, in 1962-63, in general secondary State education the full-time equivalent for overtime for Greater

Athens represented 35.4 per cent of total overtime although enrolments in this part of Greece are only 29 per cent of the total.

(b) Pupil/Teacher ratios

The differences in the pupil/teacher ratios are better known (in the absence of more detailed data on pupil/classroom ratios). Table 68, concerning Greece, is given as an example. The imbalance is found both in public and private education and at primary and secondary levels.

TABLE 68

Pupil/teacher ratios by region in Greece in 1962-1963

Geographical regions	Primary education		General secondary education	
	Public	Private	Public	Private
Total for Greece	38.5	28.4	34.0	21.0
Greater Athens	44.0	29.6	37.0	19.0
Rest of Central Greece and Euboea	39.2	29.3	31.0	
Peloponnesus	36.9	30.4	32.0	
Ionian Islands	36.7	23.8	32.0	
Epirus	35.5	19.5	41.0	
Thessaly	41.6	24.0	36.0	
Macedonia	39.9	25.6	34.0	
Thrace	39.2	26.7	29.0	
Aegean Islands	32.0	24.7	28.0	
Crete	33.7	20.3	36.0	

The following tables make an attempt to bring out the trend of such regional inequalities by supplying additional data for selected years before and after 1960.

A simple enumeration of the various regions would not be meaningful without some account of their characteristics. The so-called "rural" or "urban" regions generally have very different pupil/teacher ratios, but these differences do not always follow the same pattern. While pupil/teacher ratios in some developed countries are better in rural than urban areas (because of rural migration), the ratio may be unsatisfactory in the rural areas of developing countries as shown by Table 69 concerning primary education in Portugal (except 1950) and Turkey.

TABLE 69

Pupil/teacher ratios: differences between urban and rural areas

Type of Education and Country	Years			
	1950	1956	1960	1965
Primary education				
Portugal				
Rural areas(1)	43.3	-	34.5	32.4
Urban areas(2)	65.6	-	30.0	30.9
Turkey				
Rural areas	66.0	56	54.0(3)	-
Urban areas	26.0	42	42.0(3)	-
General secondary education				
Portugal				
Rural areas(1)	-	-	14.0	15.27
Urban areas(2)	-	-	51.6	48.07

(1) Rural and urban areas of fewer than 50,000 inhabitants.

(2) Urban areas of more than 50,000 inhabitants.

(3) In 1962 the ratios were respectively 48 and 44.

These comparisons are still too general, and more precise figures are needed on the situation in smaller areas according to population density, accessibility, level of income, etc.

Pupil/classroom or pupil/teacher ratios are not a sufficient indication fo disparities. Thus some apparently satisfactory pupil/teacher ratios in rural areas take in the entire teaching force, including uncertificated teachers, some isolated communities having difficulty in attracting and keeping qualified teachers. Unfortunately a table combining both statistics cannot be given owing to the limited documentation available.

(c) Percentage of non-qualified teachers

Here two examples showing regional situations in relation to the entire country are given (Tables 70 and 71). In the first, for Italy in 1959-60, the percentage of teachers in secondary education who had not passed the teacher examination called "Abilitazione" is calculated for the two biggest regions, one of which (the South) is being systematically developed to make up the shortcomings in each type of establishment.

TABLE 70

Percentage of teachers without the "Abilitazione" degree (Italy, 1959-1960)

Establishments	Regions		
	North-Central	South	All Italy
Intermediate schools	41.4	50.1	44.6
Classical "licei" and gymnasia	20.7	33.0	26.3
Science licei	23.2	29.2	24.8
Primary teacher training colleges	31.9	42.5	36.4
Technical institutes	36.1	42.2	38.2
Vocational institutes	48.2	56.0	50.4
Total	33.4	40.6	36.1

The second example relates to Sweden in 1966, where stocks by county differ according to type of education (Table 71).

With two exceptions in the middle department of comprehensive education the distribution of teachers seems satisfactory at primary and upper-secondary levels. In lower secondary education, however, it is very uneven. The considerable decentralization of primary teacher training colleges and the urban location of upper secondary schools may help explain the situation. As in many other countries the greater the distance from university cities the poorer the situation becomes. A more detailed analysis carried out in 1961 (Diagram 1) shows that a fundamental factor in the distribution of the certificated staff available was the size of the community; as the community gained in size the number of uncertificated teachers fell.

TABLE 71

Breakdown of stocks of certificated teachers(1) in Sweden by county (Autumn 1966)

Level and type of education / Certificated (in percentage)	Primary education (Comprehensive schools)		General secondary education		
			Lower		Upper
	Lower department	Middle department	Upper department of comprehensive schools	Lower secondary schools	"Gymnasia"
46-50			1		
51-55			1		
56-60			3	1	
61-65		1	6	1	
66-70		1	5	5	
71-75			2	2	
76-80			1	8	
81-85	1	5	3	3	2
86-90	14	9	2	4	4
91-95	9	9			16
96-100	1				3
Average for all counties	90.8	87.2	68.5	78.5	92.4

(1) Full-time teachers in primary schools (not including special education); instruction by certificated teachers for other types of education.

(d) Situation by subject

In secondary education the uneven distribution of certificated staff throughout the entire country is also true for each subject, for example the competence of non-established teachers in Italy at middle-school level in 1960 (Table 72). Although the statistics are incomplete and fail to show the exact weight of these teachers in relation to the total teaching body, the greater recruitment difficulties in four teaching fields encountered in the developing southern region are evident.

TABLE 72

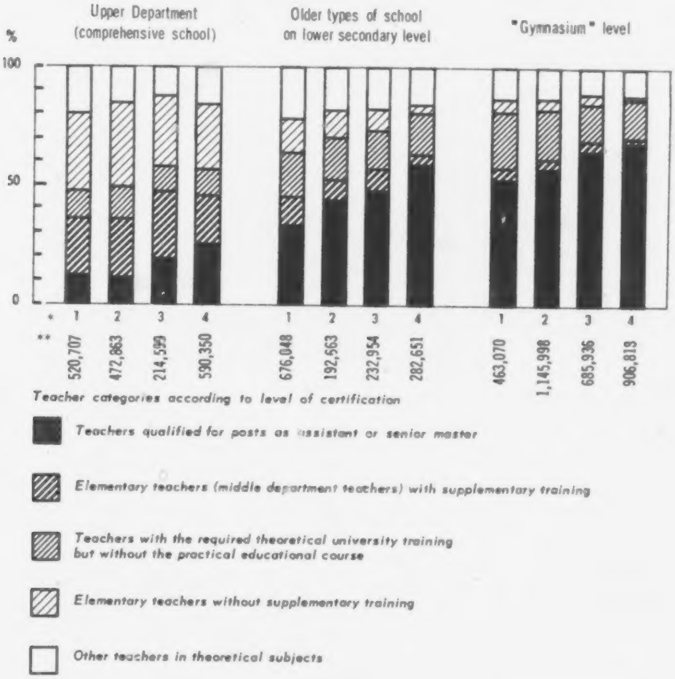
Percentage of non-established teachers with no specific certificate in lower secondary education (Italy, 1960-1961)

	Arts	Foreign languages	Mathematics and scientific subjects	Technical and industrial subjects
North-Central	19	22	22	9
South	26	42	24	16
Italy	22	30	23	13

Within each of these large regions very considerable inequalities of course exist. Regional inequalities of distribution do not always follow the same pattern for all subjects, as shown by the Table 71, for a developing region. Thus, in France, for example in 1963, when the nation-wide percentage of uncertificated teachers was practically the same for general as for practical subjects taught in secondary schools, it will be seen (Table 73) that the differences between districts do not follow the same trends for the two groups of subjects. For the same year the situation for general and for theoretical technical subjects varied considerably. The percentage of uncertificated auxiliary mathematics teachers in each of the 19 school districts ranged from 27.8 per cent for the most satisfactory case to 59.7 per cent for the least, and a national average of 37.8 per cent. In arts, where the national average was 20.3 per cent, the proportion of uncertificated auxiliaries went from 15.9 per cent to 33.2 per cent. It must be remembered that the French system of education is highly centralized. In a federal structure such as that of Germany, the breakdown of subjects in terms of recruitment difficulty also reveals differences as between Länder. A breakdown under "very difficult" and "difficult" groups the "Länder" under these headings plus a third "easy" but does not allow the exact position of each Land to be shown. From 1961 to 1966 the recruitment of mathematics teachers in gymnasia was graded "very difficult" in eight Länder and "difficult" in two (for ten Länder surveyed). For Germany, recruitment was "very difficult" in three Länder, "difficult" in five others, and hence "easy" in the last two.

Diagram 1

DISTRIBUTION OF THE TOTAL AMOUNT OF TEACHING HOURS
AMONG DIFFERENT TEACHER CATEGORIES
IN FOUR TYPES OF MUNICIPALITIES AND THREE TYPES
OF GENERAL SECONDARY SCHOOLS IN SWEDEN (AUTUMN 1961)



Notes : * 1 : 0 – 10,000 inhabitants
2 : 10,000 – 30,000 inhabitants
3 : 30,000 – 100,000 inhabitants
4 : 100,000 and over
** Total teaching hours

TABLE 73

Teaching staff in classical, modern and technical lycées: percentage of non-certificated auxiliary teachers: deviations from mean national percentage by academic district

France (1963)

Academic district	General and theoretical technical subjects	Practical subjects	All subjects
Aix	- 4.8	+ 0.7	- 4.4
Besançon	+ 0.9	- 3.1	+ 0.4
Bordeaux	0.0	- 0.9	0.0
Caen	+ 2.0	+ 0.8	+ 1.9
Clermont-Ferrand	- 0.8	+ 1.1	- 0.6
Dijon	+ 1.4	- 0.1	+ 1.2
Grenoble	+ 1.3	- 0.6	+ 1.1
Lille	+ 7.8	- 0.5	+ 6.8
Lyon	- 3.3	- 1.6	- 3.1
Montpellier	+ 0.8	0.0	+ 0.7
Nancy	+ 2.6	- 6.9	+ 2.0
Nantes	- 1.3	- 2.4	- 1.4
Orléans	+ 2.4	- 1.9	+ 2.0
Paris	- 4.0	- 7.0	- 4.3
Poitiers	+ 2.9	+ 7.4	+ 3.2
Reims	+ 9.4	+ 4.1	+ 8.9
Rennes	+ 0.4	+ 2.1	+ 0.5
Strasbourg	- 0.1	+ 10.9	+ 0.7
Toulouse	+ 0.4	+ 11.4	+ 1.3
National percentage	23.7	23.8	23.7

TABLE 74

Trends in pupil/teacher ratios(1) in primary education by province (Yugoslavia, 1952, 1956, 1960)

Regions	1952	1956	1960
Serbia (as a whole)	43.3	29.3	30.1
of which: Serbia (without Vojvodina and Kosmet)	43.4	29.05	30.7
Vojvodina	39.4	27.6	28.5
Kosovo and Metohija	50.2	33.8	34.2
Croatia	44.2	33.55	32.8
Slovenia	39.05	33.3	27.0
Bosnia - Herzegovina	64.5	47.05	44.5
Macedonia	43.6	35.2	31.9
Montenegro	38.5	29.5	28.3
Yugoslavia as a whole	45.0	33.0	35.0

(1) Full-time and part-time teachers.

Source: MRP Country Reports: Yugoslavia (Table 1).

TABLE 75

Trends in percentages of fully certificated teachers(1). Breakdown by sex in 9 provinces (Canada) 1958-59 to 1964-65

Provinces	Primary education				Secondary education			
	1958-59		1964-65		1958-59		1964-65	
	M	F	M	F	M	F	M	F
Newfoundland	18.2	9.4	25.4	15.2	46.8	24.9	50.3	34.7
Prince Edward Island	12.9	7.3	55.4	20.3	36.5	25.0	59.1	38.9
Nova Scotia	78.7	56.7	88.5	69.5	82.8	61.3	81.8	65.2
New Brunswick	39.8	20.1	67.1	42.6	67.2	50.2	59.9	43.2
Ontario	88.2	80.7	95.7	89.7	88.3	81.6	69.1	71.3
Manitoba	67.1	69.2	88.1	84.2	57.0	63.2	69.6	62.2
Saskatchewan	96.5	93.7	98.2	97.5	63.5	56.0	68.1	47.5
Alberta	91.5	85.7	94.5	89.7	64.9	46.1	71.9	52.8
British Columbia	88.9	82.4	96.0	92.3	87.9	73.3	87.1	73.1

(1) Fully certificated primary teachers are those who have continued their training beyond Junior Matriculation for one or two years and those who have had one or two years' vocational training beyond Senior Matriculation. Fully certificated secondary teachers are those who have continued their studies during four years or more beyond Junior Matriculation or for three years or more beyond Senior Matriculation, including one year of vocational training. All teachers in Quebec are considered fully certificated after two years of study beyond Junior Matriculation. The statistics for Quebec cannot therefore be compared with those in the Table 75.

Source: Canada Year Book, 1960-1967.

Another indicator is the proportion of staff teaching outside their own field. The differences liable to exist for a country with a federal structure, such as the United States, have already been shown in Table 65 for very large regions and according to enrolment.

(e) Trends in distribution of teachers by region

Very often the interaction of the factors causing differences in the distribution of certificated staff over the whole country is not fully explained. Knowledge of them, at a given moment, will be useful only if it promotes measures to reduce the most glaring differences. Here too, detailed studies are needed over a fairly long period to determine whether or not inequalities show any sign of decreasing. The few indications that can be given for some countries show that disparities tend to be corrected mainly in primary education. If differences between extreme values for the regions of two countries with a federal structure are very roughly compared (Yugoslavia and Canada) (Tables 74 and 75), an overall reduction of differences in primary education can be noted (from 26.0 to 17.5(1) in Yugoslavia, from 83.6 - men - and 86.4 - women - to respectively 72.8 and 77.1(2) in Canada.

A different calculation based on the trends of pupil/teacher ratios in primary education by region in Italy from 1957-58 to 1962-63 shows a reduction in the gap between the outside values from 16 to 11.

In a period of shortage a fairly general reduction of the differences may be accompanied in some regions by a deterioration of the factor taken into account. Thus in Yugoslavia between 1956 and 1960 the Serbian pupil/teacher ratio rose while it continued to fall elsewhere. In Canada, in secondary education only, while the gap between the two outside values contracted, the percentage of certificated staff of both sexes fell in three provinces, of men teachers in one and of women teachers in two.

The few indications above do not mean that even in a period when teacher supply and demand balance, some regions may not have recruitment difficulties, due either to distance or recruitment regulations. The co-existence of a surplus of teachers in one region and of a shortage in another is quite possible, as is now true of Austrian primary education, where there is a surplus of teachers in Vienna while Upper Austria, with only 19 per cent of total enrolments, represents one-third of the shortage. But it was only to be expected, during the shortage experienced by many countries from 1950 to 1965, that such differences should be felt more strongly. The overall statistics naturally conceal a phenomenon which should at least be pointed out, if it cannot be examined more closely.

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(1) The indicator used is the pupil/teacher ratio (Table 74).

(2) The indicator used is the percentage of full-time certificated teachers (Table 75).

2. Transfers of Teachers from one Educational Level to Another

Teacher mobility within a school system, either voluntary or resulting from systematic action on the part of the authorities to try to make up the deficits simultaneously or successively affecting some types of education, may at times deprive some levels or types of education of the teachers they need.

If the total number of people wishing to take up a teaching career is considered, it will be observed that demand for posts has varied considerably over the past 15 years.

Pre-primary education tends increasingly to expand, for it can play a fundamental role in reducing certain social handicaps. Special education must also cater for children unable to follow normal schooling and who are apt to hamper the latter's effectiveness when they are consciously retained there. The growth in enrolments in secondary education has resulted, at the top of the pyramid, in the expansion and diversification of higher education. In secondary education, covered by this study, at the end of primary education the countries concerned have instituted either a lower general secondary course or a short modern general course alongside the traditional secondary course. In the upper general and technical course, a wider choice of subjects is being offered to the pupil, and in some countries technical education is tending to break away from its isolation and to become closely involved in the growth of the system as a whole.

The mobility of teachers is generally helped by initial training and by that more specifically called for by promotion policies. A given form of training followed by supplementary examinations makes it possible to teach in other types of education. Thus, the primary teacher's certificate opens the door not only to primary education but to pre-primary, upper primary or short modern secondary, lower secondary, special education, and general subjects in vocational education. Training received in a university or one of the specialized institutes or colleges can lead to teaching in general, technical secondary, or higher education, as shown by Table 76, covering various types of education at primary and secondary level in Germany.

TABLE 76

Size of teacher flows from one type of education to another as a percentage of total entries and departures (for each type of education): average over 4 years (from 1961 to 1964) in Germany

	Primary and upper primary education	Special education	Intermediate schools (Realschulen)	Gymnasia	Vocational education	Technical education	Colleges of engineering
Entries	1.3	45.5	45.8	2.3	6.1	28.6	2.8
Departures	12.1	22.7	10.7	6.8	15.6	11.5	2.6

In the Netherlands where supplementary training makes it fairly easy to obtain promotion into other types of education than that of the initial assignment, the transfer rates from primary education may achieve a certain stability. Table 77 covers a number of years in this country. Table 78, for England and Wales, seems to confirm the conclusions drawn from the Tables 76 and 77 for primary education (Netherlands and Germany) and long secondary (Germany): the proportion of teacher transfers to other types of education (in relation to total turnover) appears to be heavier than teacher "entries" from other levels (in relation to total entrance rates). In England and Wales, and the Netherlands, the proportion of women teachers in these transfers who enter is higher than that of those who leave.

TABLE 77

Teacher transfers in primary education expressed as a percentage of the total number of those entering and leaving (Netherlands, 1952-62)

	1952		1954		1955		1956		1957		1958		1959		1962	
	Entering	Leaving	Entering	Leaving	Entering	Leaving	Entering	Leaving	Entering	Leaving	Entering	Leaving	Entering	Leaving	Entering	Leaving
1. Substitute/ subject teachers	14.0	-	13.3	11.0	18.1	12.0	16.6	10.7	-	10.2	19.9	10.7	16.9	12.[illegible]	[illegible].6	18.2
2. Pre-primary education	-	-	0.3	-	0.2	-	0.5	-	-	-	0.5	-	-	-		-
3. Vocational training	3.0	-	1.1	5.9	1.0	6.0	0.9	8.0	-	10.0	1.7	9.4	2.0	9.9	2.8	11.2
4. Traditional secondary education		-	0.1	4.8	0.1	4.5	0.1	4.5	-	4.1	0.2	3.4	0.3	3.4		
5. Teacher training		-	0.1	1.8	0.2	2.5	0.1	2.6	-	1.5	0.2	1.7	0.1	1.4		
6. Other types of education		-	-	0.3	0.2	0.9	0.4	0.5	-	0.4	0.2	0.5	0.7	0.4		
Total (3+4+5+6)	3.0		1.3	12.8	1.5	13.9	1.5	15.6	-	16.0	2.3	15.0	3.1	15.1	2.8	11.2
General total (1 to 6)	17.0	-	14.9	23.8	19.8	25.9	18.6	26.3	19.5	26.2	22.7	25.7	20.0	27.3	23.4	29.4
% of women in total transfers	53	-	57	37	63	37	64	33	60	31	69	30	-	-	63	46

TABLE 78

Teacher transfers from maintained primary and secondary education to other types of education, expressed as a percentage of the total number of teachers entering or leaving maintained primary or secondary schools (England and Wales, 1962/63 - 1965/66)

	1962-1963		1963-1964		1964-1965		1965-1966	
	MW	W as % of Transfers	MW	W as % of Transfers	MW	W as % of Transfers	MW	W as % of Transfers
Entries	3	53	2	55	3	56	3	54
Departures	13	37	10	39	10	36	11	35

Source: Statistics of Education Teachers, Volume 4, 1966.

In the Netherlands, the assignment of women nursery-school teachers to the first two years of primary education has been possible; certificated headmistresses were able to take a special one-year course. A similar policy has been followed in Belgium where, for specific years (1959, 1962 for example), a special effort was made to train nursery-school staff to teach at lower primary level.

In some countries there is still keen competition between secondary and higher education to get university graduates. Graduates can be employed in higher education after a very small amount of training or may be promoted from secondary education. The 1965 figures for the Netherlands (Table 79) show that teachers leaving traditional secondary education go mainly to higher education. Naturally, university graduates are the ones who take the most advantage of this opportunity.

University and secondary education are in fact the main employers of certain categories of university graduates, according to a Danish survey on the breakdown of philosophy and mathematics graduates in working life.

In theory when an increase in enrolments, after affecting secondary education, attains higher education, the latter, in order to maintain teaching standards and in particular to train

TABLE 79

Reassignment in education of certificated teachers leaving traditional secondary education, as a percentage of total known reassignments (Netherlands, 1959 and 1965)

	All types of certification	All types of certification	Of which University Graduates
	1959	1965	
Higher education	13	15	22
Other types of education	12	9	5

TABLE 80

Percentage breakdown by age of philosophy and mathematics graduates in Denmark in 1965

Ages	Gymnasia		Higher Education	
	Faculties of Philosophy	Faculties of Mathematics	Faculties of Philosophy	Faculties of Mathematics
34 and below	62	27	15	56
35-50	56	36	15	41
51 and over	56	51	11	20

future teachers for secondary education tends to hold on to the most gifted students or to attract staff from secondary schools. Owing to the long training required for secondary teachers and to the advantages of posts in higher education (from the material as well as social-status standpoint), the danger was that secondary education might not withstand such strong competition. In England and Wales, in recent years, the number of university graduates going into primary and secondary schools has consequently been lower than the growth in the number of graduates would suggest. Notwithstanding the lack of detailed statistics on teacher flows for traditional secondary education in France, the drain into higher education from the "agrégé" teacher category, initially intended for staffing secondary education, can indirectly be measured. Table 81 compares the number of successful candidates for the "agrégation" with the net growth of "agrégés" teachers in secondary education. Although unknown factors intrude (leaving rates due to death or retirement, numbers returning, role of military service, etc.), a comparison of the first two columns suggest that the rate of transfer by "agrégés" from their original destination is high. Their proportion in total staff in secondary education, which was a little over one-fourth in 1950, dropped to less than one-fifth in 1962.

TABLE 81

"Agrégation" degrees in arts and sciences compared with the growth of "agrégés" teachers in secondary education (France, 1950-1962)

	Numbers passing the "agrégation" (1) (2)	Increase (or decrease) in secondary education	% of "agrégés" teachers in secondary education
1950-51	311	-209	26.5
1951-52	736	+99	25.9
1952-53	378	-831	26.2
1953-54	411	+1,190	26.7
1954-55	409	+158	26.3
1955-56	514	+219	26.2
1956-57	619	+341	25.8
1957-58	717	+271	25.0
1958-59	819	+294	24.1
1959-60	772	+216	23.0
1960-61	801	+254	21.6
1961-62	932	+288	20.3
1962-63	1,010	+440	18.4

(1) Agrégation: competitive examination for teaching posts in lycées and universities. An "agrégé" is a teacher having passed such an examination.

(2) 1950 compared with academic year 1950-51.

This "escape" mainly into higher education, which has occurred in recent years (with the arrival of the population bulge since 1966-1967 into higher education), induced the French authorities to divide up the posts for new "agrégés" between higher and secondary education. The relative autonomy, research possibilities and better working conditions of higher education have attracted an increasing proportion of the graduates it trained.

The effort to find the optimum distribution of graduates in view of the training priorities to be respected, has therefore met with obstacles which are difficult to overcome, such as the length of training required and the impossibility of immediately increasing a given teacher category. Thus in England and Wales the development of nursery schools necessary to attract or maintain women teachers in the profession has been hampered by the lack of young women able to take up a career in these schools. A shortage of women teachers in fact already exists in infant schools, which must be granted priority when available teachers are being assigned.

Nevertheless, the lack of organisation in higher education may cause the latter to lose possibilities of recruiting from among its students, to the benefit of secondary education. In Switzerland, owing to the smallness of the grants and the paucity of assistants' posts, students undergoing training give lessons in secondary schools where there are vacancies. This work may prevent them from completing their course in the normal time, or they may not go beyond a certain level, or end up by taking a teaching post in secondary education instead of aspiring towards one in higher education. This has been seen to occur mainly in History and Languages.

But, in some countries, even if such a policy of optimum teacher allocation existed, it could not always be successful. In qualitative terms, the training officially required for teachers sometimes varies so much within very hierarchical educational levels that the replacement of a secondary by a primary teacher, to give but one example, tends to aggravate the problem at both secondary and primary levels since the best teachers, drawn by such promotional advantages, do not hesitate to leave. This is particularly true in countries with a long traditional secondary course taught by university graduates. Faced with a serious teacher shortage the authorities concerned then had the choice of recruiting uncertificated staff outside the teaching profession, a deteriorating pupil/teacher ratio and increased overtime, or of recruiting teachers from another level or type of education whose previous training could not be considered sufficient to qualify them for the post in view of the current recruitment standards.

In Sweden, teachers trained for the lower department of the comprehensive school have been appointed to the middle department, of which until recently they represented about one-third of the uncertificated staff (50 per cent in 1955, 24 per cent in 1965, 35 per cent in 1966). Forty per cent of posts in the upper department have to be filled by teachers originally intended for the middle department and who have had further training. Not only has the "drain" of teachers from the middle department been made official, but also the assignment of teachers to this department without further training. In 1966, 36 per cent of posts in the upper department assigned to staff of the middle department were filled by teachers without further training.

In 1959, in traditional general secondary education in the Netherlands, 34 per cent of newly recruited teachers came from other types of education, 61 per cent of these being considered uncertificated. That same year, 27 per cent of teachers at this level left for another type of assignment in the school system, of whom 56 per cent were considered unqualified. Naturally, this problem gave less cause for concern where the primary and secondary teachers had received fairly similar training, since further courses could then bring teachers up to the required level once they had acquired substantial theoretical and practical knowledge. An obvious corollary is the development of continued education and teaching help for newly recruited teachers. Longer-term policies cannot however be confined to the spreading over of shortages. It is precisely the development of an efficient educational system which will make available greater numbers of teachers, properly prepared for the duties they are to perform and less rigidly assigned watertight categories than they are at present.

3. The Standard of Teacher Training

It was shown that recruitment difficulties have resulted in the assignment of staff who, according to national standards, are partly- or non-certificated. In the light of current legislation, particularly in countries where recruitment conditions are flexible and where different qualifications may exist for each type of education, the possible consequences of shortages for the standard of teacher training should be examined.

Entrance examinations in the primary-teacher training colleges of some countries (in some cantons of Switzerland, certain German Länder and in the Netherlands) have been eliminated, and almost all candidates are accepted.

In Switzerland (cantons of Solothürn and St. Gall), the extension to primary teacher training has had to be postponed as has that of lower secondary teachers. In Italy, the proposals of the Parliamentary Commission of Enquiry on the State of Public Education tending to establish a one- or two-year pedagogical course after the first degree were not immediately adopted in the "guidelines of the five-year school plan", as the Italian Minister was afraid of discouraging candidates and of delaying their entry into the teaching body during the next five years. Nor in Turkey was it possible for the extension of primary teacher training to be implemented.

At times the length of the teacher training course has been reduced: in Switzerland, from 4 to 3½ years in Berne for primary school teachers; and from 2 to 1½ years in St. Gall for lower secondary teachers, where future teachers have been called upon to give many more hours of instruction during their training than the practical teacher-training course made provision for. This is true in primary and secondary education (Denmark, France and also Switzerland where, in Geneva and Lausanne, an attempt has been made to combine training in pedagogics and psychology with a part-time teaching post). The second part of this study also discusses policies of accelerated training put (Chapter I, (2) b) into operation at certain periods, and those for a temporary lowering of recruitment standards (Chapter II (1) b) which have had to be adopted. It is only after the passing through of the first population bulge that some countries have been able to extend the period of primary teacher training (and of secondary, in some cases, e.g., Luxembourg, England and Wales, Yugoslavia). Similar decisions have only just now been implemented in Belgium, Austria, Denmark and Sweden. Some Mediterranean countries, faced with an adequate or even abundant supply of primary teachers, have been able to extend the training period (Greece, Spain) or to plan on doing so in the near future (Italy).

Statistics showing trends in the standard of teacher training are unfortunately few and far between. These figures are especially significant in countries where the educational system does not automatically call for one (or two) strictly defined level(s) of training. In countries where this does apply, in particular those where the assignment of a post depends on the passing of a competitive examination, the standard of preparation is defined by the regulations in force, and the staff regarded as uncertificated are mainly those who have not had the advantage of pedagogical training in higher education to round off their specialized training.

In countries such as the United States, Canada and Japan, the standard of training for primary and secondary teaching staff has improved, and Japan (see Table 82) seems to have made the most rapid progress during the period 1956-1965. The remarkable advances noted in the three types of education considered must naturally be related to the small increase, if not decrease, in enrolments as a result of the falling birthrate. The improvement in the training standard (for the category spending four years or more in higher education) is due to the greater number attending specialized departments of education.

In Yugoslavia,(Table 83), which has had, and is still having, recruitment difficulties, there was a slight improvement at primary level between 1958 and 1962. But the percentage of teachers who reached higher education (23.6 per cent in 1962) was still much too low in view of the fact that the upper department of the comprehensive 8-year school, corresponding to lower secondary education, is included at primary level.

For Canada, Table 75 shows that for nine provinces, apart from a few exceptions in secondary education, from 1958-59 to 1964-65 there was some improvement in the standards acquired for both sexes. A more detailed analysis shows (Table 84) that the proportion of university graduates in primary education increased during the same period in these provinces, apart from three of the 18 cases (two for men, one for women). In secondary education improvement appears to have been more difficult, since in seven of the 18 cases (three for men and four for women) the percentage of university graduates diminished.

TABLE 82

Trends (expressed as a percentage) in the standard of teacher training (1956-1965) and the percentage of department of education graduates (public and private) (Japan)

	Primary				Secondary (lower)				Secondary (upper)			
	1956	1959	1962	1965	1956	1959	1962	1965	1956	1959	1962	1965
Four years or more of higher education	6	10	12	17	20	27	38	45	37	46	50	69
- % of graduates from departments of education	46	66	71	76	31	43	51	50	8	10	18	26
Two or three years of higher education	58	57	57	56	67	62	55	50	57	48	45	28
- % of graduates from departments of education	92	90	86	82	65	62	62	64	32	29	30	33
Certificate holders from secondary education	32	25	26	27	10	7	6	5	4	2	4	2
Other certificate holders	4	8	5	0	3	4	1	0	2	4	1	0

TABLE 83

Trends (expressed as a percentage) in the standard of primary and secondary teacher training (Yugoslavia, 1958 and 1962)

Level of training / Teaching in	Primary education				Secondary education				Higher education					
	1958	1962	Total 1958	Total 1962	Including schools for skilled workers	Technical schools	Teacher training schools or art schools	Gymnasia	Total 1958	2-Year post-secondary schools	Other training	Total 1962	Of which 2-year post-secondary schools	Other training
Primary schools	2.7	2.5	76.6	73.9	0.4	1.8	64.8	6.9	20.7	15.1	5.6	23.6	17.6	6.0
Secondary schools	-	1.0	-	30.1	5.5	10.7	9.9	4.0				68.9	13.7	55.2
Gymnasia	-		11.2						88.8	11.2	77.6			
Technical secondary schools	1.2		22.1						76.7	9.7	67.0			
Teacher training schools	-		25.2						74.8	17.3	57.5			
Schools for skilled workers	3.7		64.8						31.5	14.4	17.1			
Other vocational schools	-		27.6						72.3	7.5	64.8			
Secondary art schools	2.4		36.3						61.3	2.5	58.8			

Source: For 1958, MRP Country Reports, Yugoslavia, Table 45.

TABLE 84

Percentage of university graduates (by sex) teaching in nine Canadian provinces (1958/59 - 1964/65)

Provinces(1)	Primary education				Secondary education			
	1958-59		1964-65		1958-59		1964-65	
	M	F	M	F	M	F	M	F
Newfoundland	6.9	2.1	8.5	3.2	51.1	29.6	49.3	35.9
Prince Edward Island	7.1	0.6	12.9	1.0	46.2	31.3	53.5	29.9
Nova Scotia	38.4	9.5	32.5	11.4	73.2	55.6	67.3	55.7
New Brunswick	22.1	2.9	26.0	3.7	49.9	33.9	53.0	37.1
Ontario	19.7	4.6	22.7	6.3	81.7	85.6	80.6	85.2
Manitoba	22.1	6.9	14.4	6.5	60.3	65.3	72.1	64.3
Saskatchewan	8.8	2.4	14.9	36.7	60.5	57.1	66.5	47.2
Alberta	35.0	6.6	41.1	10.8	69.0	52.7	73.5	53.5
British Colombia	34.1	10.9	36.4	12.6	74.7	66.8	75.1	67.2

(1) No data for Quebec.

Source: Canada Year Book, 1960-67.

The Tables 82 and 83 show the wide differences in training standards for the various teacher categories. The weight of primary teachers in the teaching body is thus immediately felt when examining the level of overall training for the entire teaching body, as borne out by the example of Canada:

TABLE 85

Training standards of the teaching force in Canada(1) in 1964-65

(percentages)

	Higher education (beyond "Junior Matriculation")			
	1 year or under	2 years	More than 2 years	Total
Primary teachers	16	64	20	100
Secondary teachers	14	11	75	100
Total	15	47	38	100

(1) Except Quebec.

Source: Teachers in Canada, Supply and Demand, Dr. N. France, (mimeographed), January 1967.

Within secondary education, the level of teacher training is not only disparate but appears to be relatively unsatisfactory for technical teachers. Moreover, technical education in the strict sense of the word, except in Greece, seems to fare better than vocational training. Table 86, covering three Mediterranean countries, cross checks the information given above on possible indicators of teacher shortage.

Table 86 confirms, in the example of Portugal, that the standard of teacher training is lower in the private than in the public sector.

The standard may also vary according to the subject taught; the shortage seems to have been greatest for science teachers in secondary education. Surveys have been conducted in the United States in a number of States. They show that many teachers had not majored in the subject they were teaching. In Kansas, in 1955-56, the proportion of those who had majored was only 10 per cent in physics, 45 per cent in social studies and, in 1957-58, 33 per cent in mathematics. In Ohio in 1957-58 the proportion was 8 per cent in physics and 18 per cent in chemistry. In this State, 40 per cent of physics teachers, 23 per cent of chemistry teachers, 10 per cent of biology teachers had ten or fewer semester hours of

TABLE 86

Comparison of teacher-training standards in general and technical secondary education in three Mediterranean countries

	Portugal (1961-62)				Yugoslavia 1958 (public)				Greece 1963	
	Classical (state)	Classical (private)	Technical (state)	Technical (private)	Gymnasia	Technical	Vocational (skilled workers)	Other vocations	Technical (public and private)	Vocational (public and private)
Beyond secondary level	86.3(1)	68.7(1)	66.9(1)	62.1(1)	88.8	76.3	31.5	72.3	68.0(3)	69.0(3)
Up to secondary level	13.7(2)	31.3(2)	33.1(2)	37.9(2)	11.2	23.3	68.5	27.7	32.0(4)	31.0(4)
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(1) i.e.: degree, adjunto diploma, higher education not completed, intermediate education.

(2) i.e.: primary teacher training college, religious or military instruction, miscellaneous qualifications.

(3) i.e.: university graduates, non-university graduates, graduates from schools of engineering.

(4) i.e.: completed secondary technical and vocational education, completed general secondary education, uncertificated.

Source: MRP Country Reports, Portugal.

credit in the subject taught; in Wisconsin in 1957-58, physics teachers had an average 13.5 semester hours in physics. This amount of training appears to be less than that normally required for a minor in the subject. A more detailed enquiry in the State of New York for some disciplines, broken down by size of school and sex of teacher, confirms (Table 87) the other shortage data mentioned. Teachers of mathematics, physics and chemistry seem less well trained; a large percentage have not received even the training required to minor in these subjects. Manifestly small schools are more affected by this shortage, and men more than women(1).

A more detailed study of the actual training standards attained cannot be undertaken at present owing to lack of data. Surveys of this type however will become increasingly necessary so that specific action to provide refresher training or permanent education for the teaching profession can be planned. These few statistics, given more as an illustration than as evidence, are so all embracing as to be somewhat ambiguous. While it is important that the training of all teachers should be prolonged at advanced level, the exact importance given to general, specialized and pedagogical training respectively should be known. Instances have been given above showing the standard of specialized training in the United States, but is the position of pedagogical preparation known? The example of France is symptomatic in this respect. From 1950 to 1962 the proportion of "agrégés" (very advanced level "specialization" certificate), dropped from 26.5 per cent to 18.4 per cent of staff in the lycées. Should there be cause for alarm since it is known that up to now these teachers to be have received little or no teacher training? Perhaps it is the composition of the "stock of certificates held" by teaching staff which should be known in greater detail.

Although data are scarce, the improvement in teacher standards was apparently slowed down when recruitment was most difficult.

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(1) Figures for the United States are taken from Teacher Shortages and Salary Schedules, J.A. Kershaw and R.N. McKean, February 1962.

TABLE 87

Frequency distributions of semester hours' preparation in subjects taught, public schools in New York State (percentages of teachers for each level of preparation)(1)

	Small schools						Medium schools						Large schools					
	0-15		16-30		31 +		0-15		16-30		31 +		0-15		16-30		31 +	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Biology	35	14	35	36	30	50	4	0	29	10	67	90	0	0	67	100	33	0
Chemistry	42	33	26	33	32	34	11	0	47	100	42	0	0	-	0	-	100	-
Physics	71	75	15	-	14	25	32	0	48	100	20	0	80	-	0	-	20	-
Mathematics	54	36	33	44	13	20	47	50	36	42	17	8	20	75	20	25	60	0
History	15	23	43	35	42	42	8	13	36	44	56	43	11	0	22	50	67	50
Social Studies	4	5	23	28	73	67	2	5	11	18	87	77	0	0	0	0	100	100

(1) 0-15 Semester hours: shorter than normal training period required for a minor in the subject.

16-30 Semester hours: roughly represents period of training required for a minor in the subject.

31 + Semester hours: represents more than period of training required for a minor.

Source: Teacher Shortages and Salary Schedules, J.A. Kershaw and R.N. McKean, The Rand Corporation, February, 1962.

4. Conclusion

It is scarcely possible to go more deeply into the effects of teacher shortage recorded from 1950 to 1965 for the various categories. In the context of traditional educational systems no study has in fact been made of how pupil training and teaching efficiency are actually affected by the over-use of certificated staff or by the wider recruitment of uncertificated staff. Earlier recommendations by O.E.C.D. and other bodies concerning the training, recruitment and utilization of science and technical teachers were not apparently having any effect(1) while at the same time shortages were occurring in arts communication subjects (mother tongue or foreign languages) and the fine arts.

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(1) For example:

- Supply, Recruitment and Training of Science and Mathematics Teachers. Science and Education for the Future, O.E.C.D., 1961;
- Training of Teachers for Vocational Education. International Centre for Information and Research on Vocational Training, ILO, Geneva, September 1964.

CHAPTER V

FORESEEABLE DEVELOPMENTS IN VARIOUS COUNTRIES

Some countries have been trying for a number of years to calculate their teacher requirements and the means of satisfying demand. Faced with the growing complexity of recruitment, governments who previously undertook only sectoral or regional studies have been developing more systematic types of investigation. This is true of countries with a highly decentralized educational system, particularly those with a federal structure. These surveys have the advantage of "clearing the ground" for decisions regarding the training, recruitment and use of staff at various levels of educatiional administration.

The complexity of the educational reforms which are now being put into effect in several countries makes it difficult to assess teacher supply and demand at some levels and for some types, particularly in secondary (general and technical) education. In the Netherlands the general reform of secondary education makes it impossible to say exactly how many pupils will be enrolled in a particular type of secondary education after primary school, or after the first year of observation and guidance instituted in the different secondary establishments. In France, the restructuring of short-term technical education (for directly vocational purposes) prevented the authorities of the Fifth Social and Economic Development Plan from forecasting teacher demand, since the final curriculum choices had not been settled at the time the preparation of the Plan occurred. Similarly, the creation or expansion of continued or upper primary education (Portugal, Spain) at the same level as that of lower long secondary education makes it difficult to foresee the pattern of enrolment after the primary course.

After having nevertheless assessed staff requirements, some authorities have made no attempt to estimate the supply which would make it possible to meet them, or any differences (plus or minus). The demand thus assessed should give the educational authorities some general idea of recruitment needs. The real teacher supply is of course difficult to assess when the structure and content of higher education is changing, when innovations are introduced into the actual level, duration and content of teacher training, when the participation rate of certificated teachers in education largely depends, according to type of training, on offers of employment outside the system and, finally, when married women, whose children have grown up, want to re-enter the teaching profession. Moreover, the competition among different levels of education to attract teachers with a specific type of training seems unlikely to slacken in the next ten years, in view of the increased enrolments in upper secondary and higher education.

By showing the increase in enrolments, in the absence of any assessment of teacher demand or mention of it, although not possible to make a comparison with the expected supply, at least the effort needed over the next ten years can be measured. When supply and demand can be compared, unlike the procedure for the previous period, a forward estimate of overall imbalance in terms of "shortages" or "surpluses" can be made. Whatever former experience has shown, there is thus no way of knowing what methods of adjustment (described as "shortage indicators" for the previous period) will be used by the authorities responsible (improvement of pupil/classroom ratios, overtime, use of staff not certificated according to national regulations).

1. Trends in Teacher Demand

(a) The increase in enrolments

- The population factor: difficulties of assessment

Migrations

Lack of precise statistics makes impossible any discussion of the effect of migratory factors. International manpower exchanges depend on the economic conditions in the countries of emigration and immigration. On the other hand, it may reasonably be supposed that the internal migration observed in many countries during the preceding period will continue, if not increase, where urbanization associated with economic growth is far from complete. These internal movements will increase teacher demand, since new classrooms will not automatically be offset by the closuring of others.

The school-age population

Forecasts are made, however, of trends for the school-age population, although it must be remembered that the use of an age-group corresponding in theory to a given level of education is subject to many limitations, as mentioned at the beginning of this Part.

Where it is possible to calculate the real enrolment rate of a given age-group during compulsory education, enrolments from other age-groups may be important, as in Table 88 showing real and theoretical rates of enrolment.

In what follows, only theoretical rates can be given. The objective in some countries may be to achieve a better correlation between the age-group figure and enrolments at the level concerned. In French primary education (public and private) the proportion of primary enrolments compared with the corresponding theoretical age-group (6-10) would thus decline from 119.4 per cent in 1965 to 111.8 per cent in 1975. The proportion in Greece would fall from 109.6 per cent to 104 per cent. In Sweden where the final figures for pupils of the former terminal classes in primary education appear in 1965 to have been aggregated with enrolments in primary education, as newly defined under the reform, this proportion would decline from 104.7 per cent in 1965 to 100.3 per cent in 1970.

At the same time as an effort is made to reduce the number of repeats during compulsory education, some countries apply a policy of earlier schooling for pupils in primary education and the stricter enforcement of compulsory education. In Yugoslavia, the eight-year single school combines three objectives: the admission of children of seven years of age as part of growing urbanization; the raising of the transfer rate between the first four-year period to the second from 82.2 per cent in 1964 to 91.6 per cent in 1965-66, and to 96 per cent in 1969-70; an improvement in pupil intake during compulsory education. In Italy, this latter objective and the proportion of repeats suggest a theoretical proportion of 115.7 per cent in 1975 as against 110.6 per cent in 1968. These few examples have been given to show that for the period of compulsory education the simple examination of age-group trends is not sufficient to obtain an accurate picture of teacher requirements. It does however provide some idea of the efforts still to be made.

TABLE 88

Real and theoretical enrolment rates during compulsory education

	1965	1970	1975
Great Britain:			
Northern Ireland (5-11)			
real	93.1	91.2	91.7
theoretical	101.1	96.9	97.3
Scotland (5-11)			
real	96.0	-	-
theoretical	99.0	-	-
Yugoslavia (7-14)			
real(1)	92.5	94.4	-
theoretical	96.7	100.8	

(1) Source: "The Development of Education in Yugoslavia in the Period 1966-1970 and its Adaptation to the Needs of the Economy and Society".

Tables 90 and 91 dealing with primary and general secondary education are difficult to compare because of the lack of sufficient information on the growth of theoretical age-groups at both levels for each of the countries. All one can say is that the ten countries or so where comparable statistics exist fall into two equal categories, one in which the increase in the population able theoretically to follow primary education seems higher than that theoretically able to follow secondary education, and another group where the reverse is true.

If both levels are examined individually it will be observed that, by 1975, the age-group for primary education in the nine cases considered will rise from 0 to about 10 per cent for five countries, to roughly 15 per cent for two countries and 30 to 35 per cent for two countries. Two other countries with figures given for 1970 (Sweden) and 1972-73 (France) would fall into the first category should the recorded rate of increase continue until 1975.

TABLE 89

Ratio of enrolments in Yugoslavian compulsory education to corresponding theoretical age-group

	8-Year school (7-14)			Primary cycle (first 4 years 7-10)			Cycle equivalent to 1st secondary cycle (last 4 yrs 11-14)		
	1965	1970	1975	1965	1970	1975	1965	1970	1975
Theoretical Ratio in per cent	96.7	100.8	107.2	108.1	112.3	114.6	85.5	89.3	99.8

Source: "The Development of Education in Yugoslavia in the Period 1966-1970 and its Adaptation to the Needs of the Economy and Society".

Growth of the age-group for general secondary education by 1975, in the twelve cases considered, would rise from 0 to about 10 per cent for seven countries, from 15 to about 25 per cent for three countries, and from 30 to 40 per cent for two countries. Three other countries whose statistics deal with years prior to 1975 would fall into the first category provided the rate of increase continues until 1975. Table 92, comparing the foreseeable situation in lower and upper general secondary education, indicates that by 1975 in four of the five cases considered the age-group theoretically corresponding to the upper school will have grown more than the other.

An attempt has been made above to show the real meaning of the trend in the increase in age-groups and which may explain the differences recorded between this increase and that of actual enrolments during compulsory education. It should be added that special education, although tending to develop, is not as a rule included in the statistics and that, in some countries which have created a comprehensive system of compulsory education following primary education, previous enrolments in primary (basic or terminal) education are absorbed by the new lower secondary compulsory education (see Tables 91 and 92). Institutional factors will hence continue to have a considerable impact in years to come.

TABLE 90

Growth in pupil enrolments, in the population of the corresponding age-group and in the demand for full-time primary teachers over the next few years

(1965 = 100)

Pupils and teachers		1970	1975	1980
Germany	Pupils	112		
	Teachers	129		
Austria	Pupils	124	130	
	Teachers	135	144	
Denmark(1)	Pupils	101	110	121
	Teachers	109	120	128
Spain	Pupils	99	101	
	Teachers	123	117	
United States	Pupils	101	94	
	Teachers	111	114	
France(2)	Age-group 6-10	100		
	Pupils	83		
	Teachers	97		
Greece	Age group 6-12	102	102	100
	Pupils	102	97	96
	Teachers	107	118	126
Ireland(3)	Pupils	98	100	103
	Teachers	103	107	
Iceland	Age-group 7-12	106	106	
	Pupils	107	108	
	Teachers	107	107	

Netherlands	Age-group 6-12	105	106	106
	Pupils	104	105	105
	Teachers	108	108	108
Sweden	Age-group 7-12	99		
	Pupils	95	-	
	Teachers	93	-	
Turkey	Age Group 6-11	117	134	
	Pupils	153	173	
	Teachers	170	197	
Yugoslavia(4)	Age-group 7-10	99	99	
	Pupils	103	105	
	Teachers	99	98	
Pupils only				
Canada	Pupils	105	100	
Italy	Age-group 7-11	108	115	
	Pupils	107	120	
United Kingdom:				
England and Wales	Age-group 5-10	116	129	135
	Pupils	116	129	137
Scotland(5)	Age-group 5-11	105	102	
	Pupils	103	100	
Northern Ireland(6)	Age-group 5-11	111	115	
	Pupils	106	110	

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(1) Primary and lower secondary education, teacher demand calculated according to existing standards.

(2) Public education only for 1964-65 and 1972-73.

(3) "National" schools only.

(4) Estimates for 1965 (first four years of eight-year school).

(5) Not including pupils from two to four years old and including those twelve years and over.

(6) Excluding pupils under five years old and including those eleven years old and over.

TABLE 91

Compared growth in pupil enrolments in the population of the corresponding age-group and in the demand for full-time general secondary teachers over the next few years

(1965 = 100)

		1970	1975	1980
Pupils and teachers				
Germany	Pupils	132	-	-
	Teachers	164	-	-
Austria	Age-group 10-17	121	139	-
	Pupils	121	149	-
	Teachers	137	195	-
United States(1)	Age-group 14-17	112	119	-
	Pupils	118	130	-
	Teachers	121	132	-
France(2)	Age-group 11-17	98	-	-
	Pupils	167	-	-
	Teachers	166	-	-
Greece(3)	Age-group 12-18	102	109	109
	Pupils	149	182	185
	Teachers	148	-	-
Iceland	Age-group 13-19	114	123	-
	Pupils	127	135	-
	Teachers	126	133	-
Sweden(4)	Age-group 13-18	92		-
	Pupils	116	-	-
	Teachers	123	-	-
Switzerland(5)	Age-group 15-19	96	105	-
	Pupils	128	154	-
	Teachers	127	152	-
Turkey	Age-group 12-17	117	130	-
	Pupils	173	193	-
	Teachers	220	246	-

Yugoslavia(6)	Age-group 11-18	101	99	-
	Pupils	102	112	-
	Teachers	96	96	-
Pupils only				
Canada(1)	Pupils	121	139	-
Denmark(7)	Pupils	151	186	-
Spain	Age-group 11-17	106	110	-
	Pupils	147	180	-
Ireland(8)	Pupils	118	-	-
Italy(9)	Age-group 12-19	98	103	-
	Pupils	128	144	-
Netherlands	Age-group 12-18	95	-	-
	Pupils	112	-	-
United Kingdom:				
England and Wales(10)	Age-group 11-17	96	109	123
	Pupils	107	140	160
Scotland	Age-group 12-18	96	105	-
	Pupils	114	140	-
Northern Ireland(11)	Age-group 11-18	104	115	-
	Pupils	124	151	-

(1) General and technical secondary education.

(2) Excluding practical subjects, 1964-65 and 1972-73; covers technical upper-secondary schools, the continued present percentage of "agrégé" teachers in the profession is assumed.

(3) 1963 = 100.

(4) Excluding practical and artistic subjects; covers technical sections in gymnasia and "Facksköla" (Folk schools).

(5) Upper-secondary establishments: gymnasia, teachers' and business colleges.

(6) Estimates for 1965; including art schools and teachers' colleges (with gymnasia) at upper secondary level.

(7) Gymnasia only (upper-secondary level).

(8) Including pupils of future comprehensive schools.

(9) Including teachers' colleges (with "licei") at upper-secondary level.

(10) Public only (maintained schools).

(11) Including intermediate technical education.

TABLE 92

Compared growth in pupil enrolments, in population of the corresponding age group and in the demand for full-time teachers in lower and upper general secondary during the next few years

(1965 = 100)

Pupils and teachers		1970	1975
Germany(1)	Realschulen. Age-group 11-17	104	-
	Pupils	132	-
	Teachers	155	-
	Gymnasia. Age-group 11-20	105	-
	Pupils	132	-
	Teachers	167	-
Iceland	Lower. Age-group 13-14	116	116
	Pupils	115	117
	Teachers	112	113
	Upper. Age-group 15-19	113	126
	Pupils	140	155
	Teachers	148	163
Sweden(2)	Lower. Age-group 13-15	97	-
	Pupil	110	-
	Teachers	113	-
	Upper. Age-group 16-18	87	-
	Pupils	132	-
	Teachers	144	-
Turkey	Lower. Age-group 12-14	114	126
	Pupils	161	182
	Teachers	197	224
	Upper. Age-group 15-17	121	135
	Pupils	218	234
	Teachers	279	299

Yugoslavia(5)	Lower. Age-group 7-14	98	98
	Pupils	102	113
	Teachers	94	93
	Upper. Age-group 15-18	108	102
	Pupils	104	108
	Teachers	105	112
Pupils only			
Denmark	Lower. Pupils	101	109
	Upper. Pupils	151	186
France(4)	Lower. Age-group 11-14	99	99
	Pupils	154	189
	Upper. Age-group 15-17	95	96
	Pupils	125	150
Greece(5)	Lower. Pupils	100	111
	Upper. Pupils	100	159
Italy	Lower. Age-group 12-14	100	95
	Pupils	123	138
	Upper. Age-group 15-19	97	100
	Pupils	148	174
Switzerland	Lower. Pupils	110	120
	Upper. Pupils	128	154

(1) The distinction here is between short (Realschulen) and long secondary education (gymnasia).

(2) Excluding practical and artistic subjects; covers technical sections in gymnasia and "fackskola".

(3) Lower: last four years of eight-year school; Upper: gymnasia, teachers' colleges, art schools (estimates for 1965).

(4) 1964-65 = 100, 1970, 1969-70, 1975, 1974-75, including upper-secondary technical schools.

(5) The distinction between lower and upper cannot be made before 1970.

- Institutional factors

A typical feature of the 1965-1975 decade will be the consolidating of the basic reforms to primary and secondary education introduced by some countries during the period 1950 to 1965. This does not preclude further reforms to those already made when changes are made to existing structures as results are analysed in depth. But the time for such adjustments to be made will vary according to country, since it will depend on the capacity for "self-reform" in each system. Countries that have yet to start basic reforms will naturally come up against new quantitative and qualitative problems, whose main characteristics have been dealt with in the analysis of the preceding period.

An increase in enrolments will naturally result from decisions to extend compulsory education, but such extension which often simply confirms a spontaneous growth in enrolments will also encourage them. The social demand for upper secondary education will be greater the more the structure, content and style of education are geared to pupils' aptitudes and social needs. A more diversified educational system and measures for direct or indirect student aid are other features of reform which might reduce the number of repeats and drop-outs, and hence increase that of pupils and, consequently, of teachers.

- Enrolments

When enrolments only are considered (Tables 90 and 91), in all countries where forecasts have been made, the growth rate in secondary education is shown to be higher than that in primary education up to 1970-75. The difference would be even more marked if the various types of technical education could have been included. For the nine countries for which figures are available (Table 92), in seven the growth of enrolments is shown to be higher in upper than in lower general secondary education (France, Yugoslavia). The difference would be also more marked if all upper technical and general education had been included. Some supplementary data concerning enrolments in technical schools not included in general upper education (Tables 91 and 92) are given in Table 93. Table 94, prepared from the figures in Tables 90 and 91, shows, in 15 cases, for both primary and general secondary education, the growth rate for enrolments up to 1975 to be highest in general secondary education.

TABLE 93

Examples of growth in the number of pupils and in the population of the corresponding age-group, (and demand for full-time teachers in Germany and Yugoslavia) in secondary technical education during the next few years

(1965 = 100)

		1970	1975
Age-group and pupils			
Austria	Age-group 14-19	98	116
	Pupils	133	139
Spain	Age-group 14-17	102	112
	Pupils	146	220
Greece(1)	Age-group 12-18	102	109
	Pupils	127	-
Ireland	Pupils	116	-
Italy	Age-group 15-19	97	100
	Pupils	177	228
Sweden(2)	Age-group 16-18	87	-
	Pupils	107	-
Turkey	Pupils	161	188
Pupils and teachers			
Germany(3)	Pupils	105	-
	Teachers	151	-
Yugoslavia(4)	Age-group 15-18	108	102
	Pupils	121	165
	Teachers	125	171

(1) 1965: estimates.
(2) Vocational training only, course lasting over five months.
(3) Part-time and full-time vocational education technical schools, senior technical schools and engineering colleges.
(4) 1965: estimates.

TABLE 94

Breakdown of the enrolment growth rate between 1965 and 1975

Percentage growth 1965-1975	Primary education (15 cases)	General secondary education (15 cases)
0-10	11	-
11-20	2	1
21-30	1	1
31-40	-	4
41-50	-	2
51-60	-	2
61-70	-	-
71-80	1	2
81-90	-	1
91-100	-	2

Taking into account the more favourable pupil/classroom ratios in secondary than in primary education, a considerable growth in teacher demand can therefore be expected over the next few years. A fair number of estimates in fact show a more than proportional increase in teaching staff than in enrolments to promote the application of reforms.

(b) The demand for teachers

The demand for teachers will not depend simply on the increase in enrolments, the main causes of which are analysed precedently.

- Pupil/teacher ratios

The idea that the lower pupil/class (or more roughly the pupil/teacher) ratio the more effective the education provided, is the basis for almost all forecasts of teacher demand (except where the ratio is considered adequate or even perhaps too low). The forecasting methods are not always known in sufficient detail for a comparison of present pupil/teacher ratios with those it is hoped to reach in the next ten years. Current pupil/teacher ratios (in the absence of pupil/class ratios) are difficult to establish since it is impossible to give the full-time equivalent for part-time teachers. Moreover demand forecasts are sometimes made for a type of education (e.g. primary) without any breakdown into components (e.g. basic and upper) whereas pupil/teacher ratios are lower in the newer upper sections.

In Portugal, new continuation schools are to be developed using one teacher for 25 pupils (as against 1 to 33 in basic primary education). In Austria, the one-year supplementary "polytechnic" course, established as an extension of compulsory education for pupils finishing upper primary school, will have a ratio of 1/20, as against 1/30 in basic primary schools. A few significant examples can however be given where pupil/teacher ratios can be broken down for a given stage of education. In Turkish primary schools, the demand for 1975 has been put at one teacher for 40 pupils (against approximately 1/45 in 1965). In Greece the ratio is 1/28 for 1965 against 1/38.5 in 1963. In Germany, the number of pupils per class for calculating the 1970 teacher demand is 35 (as against 33 in 1965) for primary education, 24 (against 28 in 1965) for gymnasia, and 22 (against 24 in 1965) for part-time technical education. A mean value is used since a target value of 30, 20 and 20 pupils per class in 1970 would have meant an increase in teachers incompatible with the recruitment potential.

In the United States, the Graph 3 shows the natural and projected development of the pupil/teacher ratio (in public education) from 1965 following the "Primary and Secondary Education Act". This decision is reflected by growth differences in enrolments and teaching staff, as shown in Tables 90 and 91.

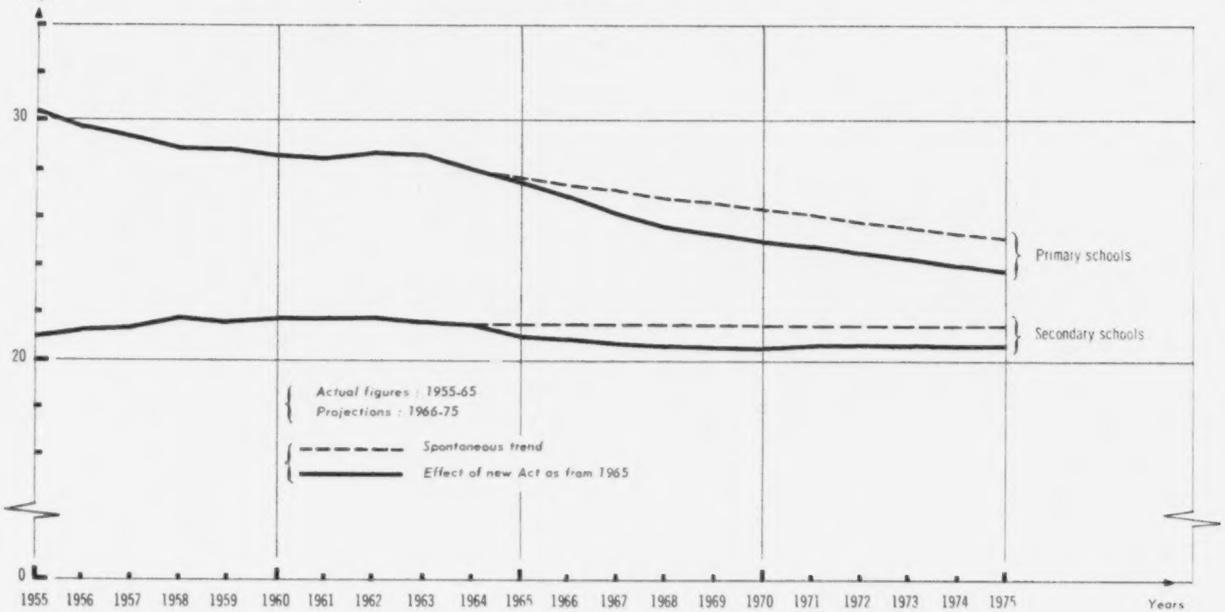
Conversely, the more rapid growth in enrolments than in the number of teachers in primary Swedish education is explained by the need to raise the pupil/class ratio which in 1965 fell below the recommended level (see Graph 3).

For primary and general secondary education (Tables 90 and 91) the desire for improvement has meant a more rapid increase in the number of teachers, except in Swedish primary education for the reason given above, in Yugoslavia (except in upper secondary school) because of longer teaching duties, (and to a smaller degree perhaps for similar reasons in Icelandic and Swiss upper general secondary education). In France the slightly higher increase in enrolments than in teaching staff in general secondary education between 1964 and 1972-73 can be explained by the overtime that teachers are legally obliged to accept to cover half the requirements due to classes which are split up.

Graph 3

INFLUENCE OF THE PRIMARY AND SECONDARY EDUCATION ACT OF 1965 ON THE TEACHER PUPIL RATIO IN THE UNITED STATES (1955-75)

(Public education)



Source : Projections of Educational Statistics to 1975-1976, US Department of Health, Education and Welfare, 1966.

Table 92 shows that in four countries for which information is available the increase in the number of teachers will be larger in upper than in lower secondary education; needs in some technical establishments, which have not been included owing to lack of figures, would tend to strengthen this tendency (Table 93).

To sum up, since for a theoretically equal number of pupils, teacher requirements are higher in secondary than primary education, the change in internal composition from 1950 to 1965 (Table 37) expressed as an increase in the percentage of secondary teachers, should continue until 1975. It must however be remembered that the figures for teachers considered at both levels are in terms of requirements. The real situation compared with that in 1970 and/or 1975, as shown in Table 37, will perhaps be different. This is because the present demand figures used in calculating percentages are in general underestimated owing to the shortage of statistics about all or part of technical education. Conversely, as will later be shown, there is nothing to show that teacher demand will be effectively covered since estimated shortages seem to affect secondary much more than primary education. The lack of information precludes any further comparative analysis. Growth indices of teaching strength for 1970-1975 (1965 = 100) as prepared are certainly higher than they actually will be owing to the lack of full-time equivalents and overtime hours for the base year. The data for 1970 and 1975 concern stocks and give no indication as to the real extent of recruitment needed for the period 1965-1975.

- Other growth factors in teacher demand

The extent of recruitment for various categories of staff depends not only on the number of enrolments expected but also on the replacement of teachers permanently or temporarily leaving the teaching profession for various reasons and at various ages. An international comparison would have little meaning since the breakdown of teachers by age and sex, and pension schemes, vary not only from one country to another but within a country, according to the category of teacher concerned. The information available rarely distinguishes between "natural" and "qualitative" replacement, whereas improved educational efficiency, which is the objective of all countries, does not mean improved pupil/class ratios only.

In preceding sections the extensive use made of uncertificated staff to teach certain subjects in various countries was discussed. The objective of these countries is to eliminate such uncertificated teachers in the near future. Graph 4 shows the rate at which uncertificated primary teachers are being replaced in Portugal (the aim being their complete replacement by 1973). In Yugoslavia, the period from 1965 to 1970 will be mainly concerned with the replacement of unqualified staff, of whome none should remain by 1975. The same goal is being sought in Swedish primary education by the early '70s. In Sweden, roughly 43 per cent of the teachers of theoretical subjects, consisting of university graduates recruited between 1965 and 1970, will be needed to replace uncertificated staff. Two methods are open to the national authorities either the replacement or the retraining of uncertificated teachers. In both cases additional recruitment will be necessary.

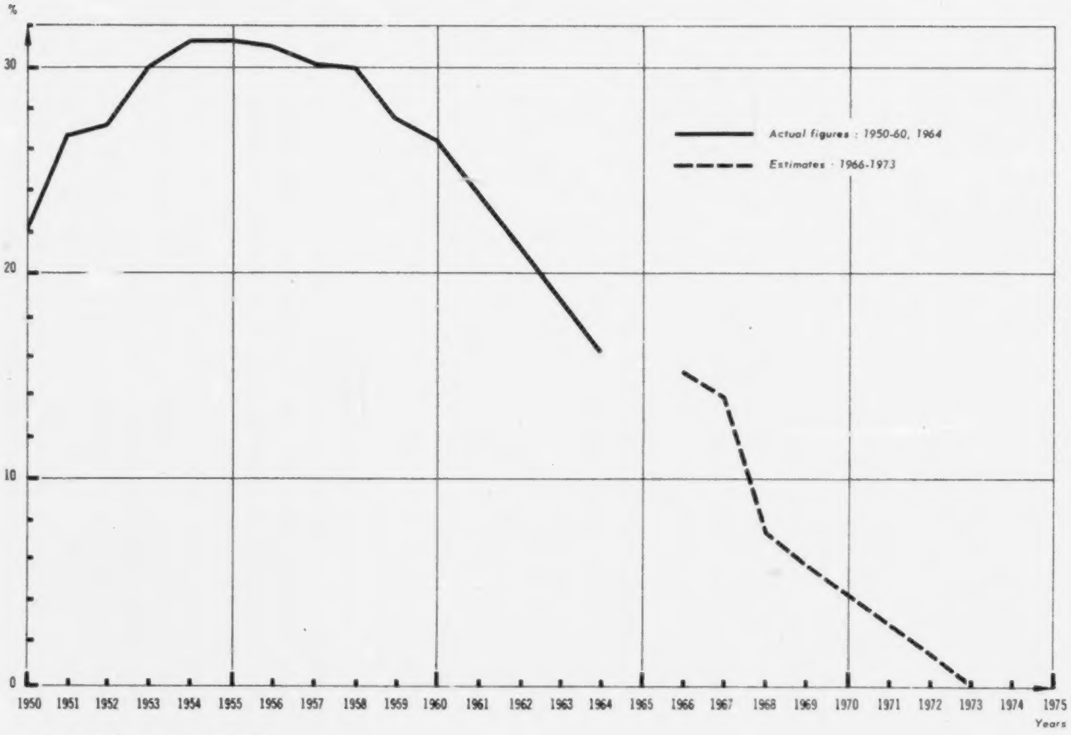
The recruitment of additional established or non-established staff will be correspondingly greater in countries where the recruitment of women is still increasing and where they are offered lighter duties to keep them in the profession.

Quite apart from the temporary replacement of less qualified teachers while undergoing supplementary training, teachers should be recruited to facilitate the continued education of established teachers, thus promoting a more effective introduction of teaching reforms. Again, for the sake of increased educational efficiency, the proposed greater length of teacher training (see Diagram 2 and Part Three) will require new temporary recruitment sources to be found to offset the theoretical loss of a graduating class. Thus in Yugoslavia from 1970 to 1975, there will be no further recruitment of primary teachers trained at secondary level, although they represented one-third of all staff recruited from 1965 to 1970.

The transfer of some activities from private to public education will create an additional demand for certificated staff, since teachers in private education, particularly in the Mediterranean countries, are not so well qualified. In Portugal, if the private sector were to take a smaller part in general secondary education an increase of 61 per cent would be required for teachers in public education between 1967-68 and 1972-73 whereas an increase of 41 per cent only would be needed were the present trend to continue. In Greece, changes in the enrolment breakdown in general

Graph 4

TREND IN PERCENTAGE OF UNQUALIFIED TEACHERS IN PORTUGAL
(ASSUMPTION OF GRADUAL REPLACEMENT OF UNQUALIFIED TEACHERS BY QUALIFIED TEACHERS 1950-1973)



Source : MRP Report country: Portugal.

secondary education would mean that the index for teaching staff would rise from 100 (1963) to 167 (1970) in public education and drop to 46 in private education. In Greece, it is estimated that teaching improvements in the public sector (such as in the pupil/class ratio) would attract more pupils from the private sector.

Another factor which would increase requirements is the appointment of staff, mainly from among established teachers, to fill the posts being created for heads and educational advisers. While this will help to improve the efficiency of the school system it will also release - either wholly or in part - staff from teaching duties. Thus in the Netherlands' primary schools with more than twelve classes an additional teacher is appointed to free the headmaster from teaching commitments.

Some countries have decided to strengthen the full-time staff because too large a proportion of part-time teachers curtails efficiency, and prevents any control over the real qualifications of the staff. Greece, thanks to the setting up of an advanced college for technical teachers, is to train a real full-time teaching staff during the next few years. In Yugoslavia, whereas the number of full-time teachers throughout the school system is to increase by about one-third from 1968 to 1975, full-time teachers of vocational and technical subjects will increase threefold. Spain hopes to achieve a change of this kind in general secondary education by 1975. Lastly, teachers of retiring age who have agreed to continue because of shortages will, of course, have to be replaced.

In all, for many countries it is unfortunately impossible to show the respective weights of the different growth factors. Some factors, such as the replacement of unqualified teachers or the immediate consequences of instituting a systematic programme of continued education, have thus not been taken into account when planning recruitment. Nor are possible reductions in teaching duties often mentioned. It is very difficult to assess organisational improvements to the educational systems or the efficiency of teacher utilization in the forecasts that have been made. Such factors as the concentration of schools and classes, school transport facilities, the lightening of extra-curricula teaching duties, the development of two subject teachers or the use of new methods and techniques seem capable of offsetting only very slightly, although it is impossible to say how much, the effects of the various factors promoting a greater demand for the different categories of staff described above. Hence it is necessary to determine whether teacher supply can adequately meet the demand as estimated by the countries.

2. Comparison of Teacher Supply and Demand

Before noting any disparities between supply and demand, it should be borne in mind that the number of teachers employed will ultimately depend not only on the number of certificated teachers actually available but on the financial resources available to education, for a maximum stock of certificated staff of various types can be remunerated at any given time. In the discussion which follows this latter constraint cannot of course be taken into consideration.

(a) Primary education

The period 1965-1970 (1975) will presumably enable many countries to correct the former shortage of primary teachers. As Table 95 shows, a few pockets will persist, to some considerable extent in Turkey (owing to the present capacity of teachers' colleges) and to a smaller degree in Austria. In Sweden, uncertificated primary teachers should have disappeared by 1970 in the lower department of the comprehensive schools and during the early '70s in the intermediate department.

TABLE 95

Primary teacher shortages up to 1970-1975
in Austria, Germany and Turkey

(in per cent)

	1965	1970	1975
Germany	13.4	9.6	-
Austria	-	15/16	10/13
Turkey	42.0	40.0	35.0

Source: MRP, Country Reports, Turkey.

Some countries even anticipate a surplus of certificated primary teachers. In Italy, such a surplus already exists, and is linked to the general secondary training which primary teacher colleges provide, where incidentally the course is one year shorter than in general secondary and technical schools. In Sweden, a surplus of primary teachers intended for the lower departments of the comprehensive school may emerge during the '70s. In Yugoslavia, no further primary teachers from secondary training colleges will be recruited (although in 1968-1970 50 per cent of the graduates from these colleges may still enter the profession).

Situations showing a balance or relative surplus could be changed by a combination of the various measures which the authorities might adopt. In Greece, the slight surplus which now exists could be wiped out by training primary teachers for an extra year, as planned by the authorities, and by further improving the pupil/teacher ratio by 1970, as recommended by the planning services (i.e. 130 instead of 132).

Part of the certificated primary-teacher supply could also be deployed so as to develop pre-primary, special or even lower secondary education, with the help of additional training. In Germany, a 22 per cent shortage of teachers intended for special education is expected in 1970 (as against 25 per cent in 1965). In the United States, the demand for pre-primary education, if it is desired to maintain pupil/teacher ratios at the 1965 level, may result (for pre-primary and primary education combined) in a slight shortage in 1970. Theoretical balance could be attained in 1975 only by failing to improve the pupil/teacher ratio. In Yugoslavia, graduates from teacher colleges at secondary level can either enter pre-primary education or continue their studies in advanced training colleges, which they must complete in order to teach in primary education.

To sum up, the size of the gap between the supply and demand of primary school teachers will depend not only on financial resources, as mentioned above, but on decisions concerning changes in the length and level of training, which are a part of more far-reaching reforms in upper secondary and higher education. In particular, the fact that the more comprehensive general training of primary teachers will offer wider employment prospects means that recruitment problems will be re-set in new terms, similar in some ways to those already used to attract secondary teachers.

TABLE 96

Shortage of teachers in general secondary education by 1970-1975

(in per cent)

Countries - level of education	Years		
	1965	1970	1975
Overall			
Germany (gymnasia)	21.1	26.5	-
Austria	-	16.0	32.0
Spain(1)	44.0	40.0	26.0
Lower			
Germany (Realschulen)	15.2	14.0	
Italy	-	7.0	5.0
Turkey	62.0	48.0	37.0
Yugoslavia(2) (3)	30.0	18.0	0.0
Upper			
Italy(4)	-	12.0	11.0(5)
Switzerland(6)	23.0	29.0	26.0
Turkey	43.0	43.0	28.0
Yugoslavia(2) (7)	17.0	9.0	0.0

(1) Non-graduates.

(2) Uncertificated.

(3) Last four years of eight-year single school.

(4) Primary teacher colleges, "licei", technical and vocational institutes.

(5) The teacher surplus in arts subjects has not been taken into consideration so as to offset the teacher shortage in science and technical subjects; no indication is given concerning the replacement of present uncertificated teachers or concerning those who might be recruited in 1969-70 to correct the shortage; under this assumption accumulated shortages for 1974-75 might be greater than those given here.

(6) Primary teacher colleges, lycées and business colleges.

(7) Gymnasia, teacher colleges, art colleges.

Source: MRP Country Reports: Spain, Turkey.

(b) Secondary education

The pressure of teacher requirements at secondary level is such that there is a risk that the scarcity noted in 1965 may continue, if not become, more acute in some countries.

- Overall shortage

The shortages already observed, on the whole will be much higher in general secondary than in primary education, as shown in Table 96.

In Sweden a slight shortage is considered likely in 1970. In Denmark, in the absence of detailed estimates of the teacher demand for gymnasia, the growth in enrolments (1965 = 100; 1970 = 151; 1975 = 186) when compared with the foreseeable teacher supply (1965 = 100; 1970 = 132; 1975 = 209) indicates that the current acute shortage will continue for some years to come.

In the United States the number of available teachers would still be too high in 1970 and 1975 even if the pupil/teacher ratio were to be improved from 1:21.4 (1965) to 1:18.0 in ten years (i.e. by 1975). These informations concerning the United States and Sweden, or Italy (see Table 96) are also true of technical education. More precise information on this type of education is given in Table 97 for Germany, Turkey and Yugoslavia.

TABLE 97

Teacher shortages from now until 1970 and 1975 in German, Turkish and Yugoslavian technical education

(in per cent)

	1965	1970	1975
Germany			
Part-time vocational training	33.8	29.5	-
Full-time vocational training	26.5	21.4	-
Technical schools	14.0	11.8	-
Turkey			
Technical education	55.0	38.0	20.0
Vocational training	6.0	23.0	23.0
Yugoslavia	15.0	6.0	0.0

Source: MRP Country Reports, Turkey.

These figures do not of course include possible shortages by subject.

- Shortages by subject

The few existing forecasts on recruitment difficulties by subject or group of subjects are insufficient for any general conclusions to be drawn. No detailed analysis of trends for various categories of graduates from higher education or of the rate of their participation in secondary-teacher staff has been systematically undertaken, except in a few countries. Table 98 shows the figures available for general secondary education.

TABLE 98

Shortages by subject groups in general secondary education(1) in 1970 and 1975, (Italy, Switzerland and Yugoslavia)

		1965	1970	1975
Science subjects				
Italy	lower	-	16	19
	upper	-	28	29
Switzerland	upper	27	35	32
Yugoslavia	upper	20	10	0
Arts subjects				
Italy	upper	-	4	1
	lower	-	2	/surplus/
Switzerland	upper	23	29	25
Yugoslavia	upper	8	4	0
Other subjects				
Italy	upper(2)	-	17	14
Switzerland	upper(3)	12	11	8
Yugoslavia	upper	27	14	0

(1) The composition of each type of education is the same as in Table 96.

(2) Technical and vocational subjects only.

(3) Business subjects only.

In Germany, subjects have been classified according to recruitment difficulties. The results are given in Table 99 (subjects being ranked at the same "recruitment difficulty" level).

TABLE 99

Classification of subjects according to difficulty of teacher recruitment in general secondary education (Germany: 1961-1966 - 1967-1970)

	Gymnasia		Realschulen	
	1961-1966	1967-1970	1961-1966	1967-1970
Mathematics	1	1	1	1
Physics	1	1	3	1
Chemistry	6	5	3	1
Biology	6	7	2	2
German	5	4	10	3
English	5	4	11	4
Music	2	2	5	5

Other statistics concerning Sweden, Austria and Denmark show that the recruitment of staff teaching science subjects will continue to be difficult during the next few years, and that supply will not easily meet demand, which will be all the greater because previous deficiencies (the use of uncertificated teachers and overtime for example) ought to be corrected.

Nor do recruitment difficulties in various "communication" subjects (mother tongue, foreign languages) or in others designed to develop creativity (art education) seem likely to disappear very rapidly in Germany.

Although in technical secondary education Yugoslavia plans to have overcome its teacher shortage in all subjects by 1975, Germany fears there may well be considered shortage about 1970 in the industrial and technical sectors (excluding branches of engineering). Of the ten Länder considered, four thus anticipate a considerable shortage in metals and metal-working (two think the shortage will be light) and six in electricity (two believe it may be slight). In engineering science, the same ten Länder expect shortages in civil engineering (four serious shortages, three slight), electrical engineering (five serious, three slight) and mechanical engineering (five serious, three slight). Teachers of home economics, hygiene or social welfare will also be difficult to find. However, many technical options are offered in reformed secondary education, the increase in enrolments, the demand for graduates, the need to compensate for the considerable earlier shortages and their consequences, and the improvement in the length and standard of training for certain categories teaching theoretical and practical subjects will mean a high level of demand in the next ten years.

In a changing educational system it is difficult to determine the threshold of balance (or imbalance) between teacher supply and demand. In general, the planning services submit minimum and maximum assumptions which include a set of alternative policies to the authorities responsible for recruitment. In the United States a rapid reduction in the size of primary classes thus appears to be incompatible with any substantial increase in pre-primary education, unless the present surplus of students gravitating towards secondary-school teaching can be channelled into primary school teaching. In Portugal the emphasis might at first be placed on better teacher training rather than on lower pupil/class ratios. When the majority of the teachers intended for primary and secondary education are trained in the same establishment, the distribution of such staff in the school system and their deployment in one which is largely decentralized does not always meet the initial overall forecasts. During the past few years in England and Wales, for example, teachers who, according to the forecasts should theoretically have been used for reducing the size of classes(1) have in fact served not only for this purpose but also for others (still smaller classes for backward pupils, a broader choice of curricula, etc.). The time when balance can be attained thus depends not only on a combination of certain objectives and the priority granted to some of these, but also on specific factors affecting supply. In the United States the discrepancies observed in forecasts of supply are due to different assessments concerning the number of women who will return to the teaching profession (in the '70s)(1) when their children are grown up. Conversely, the fact of teachers leaving the profession may call for several assumptions concerning the total stock available and the date when supply will be able to match demand. In England and Wales, where more people have left the profession in recent years than was estimated, supply should balance overall demand by about 1978, if the rate of wastage remains constant after 1970, and by about 1980 if the rate does not become constant until after 1974. In view of the standards adopted when drawing up the forecasts a surplus of teachers would then begin to emerge.

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(1) By determining during the forecasts a pupil/teacher ratio which would do away with over-crowded classrooms.

Source: "The Supply of Teachers", Report on Education, December 1968, No. 51.

To sum up, primary and secondary education (general and technical) are going to demand, in addition to teaching staff, an increasing number of professional staff, drawn from both inside and outside the teaching body (school psychologists, administrators, etc.). The courses and types of education not included in this report (pre-primary, special, higher and adult education) may deplete the stocks available for primary and secondary education. Finally, other sectors of activity will also required highly skilled manpower. It is with this in mind that the analysis of the growth in teacher demand and supply must be concluded.

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(1) Projections of the Supply of Elementary and Secondary School Teachers in the United States, by Age and Sex for 1970 and 1975, by H.L. Vincent, Office of Program Planning and Evaluation. U.S. Department of Health, Education and Welfare, Office of Education, December 1966.

CONCLUSION

ROLE OF THE TEACHING PROFESSION IN THE DEVELOPMENT AND UTILIZATION OF HIGHLY SKILLED MANPOWER

As noted, teacher requirements will continue to increase and in some of the countries where forecasts of supply and demand have been made, a number of recruiting difficulties have been brought to light.

In the period 1950 to 1965 some of these difficulties must be ascribed in a number of countries to the attraction which openings in industry, research and certain services hold for the more brilliant graduates - these jobs proved to be more attractive and better paid, and working conditions were easier than in teaching (apart from higher education). More generally, as education for a select few was made available to the masses, it was not always able to retain sufficient graduates in its ranks because the career opportunities it offered had not been revised.

Education has therefore been in sharp competition with other branches of activity, not only for new graduates but also for others in various outside occupations and even for retired staff. This situation, which appears to have adversely affected the educational sector in the past, has at least the advantage of bringing out the status of the teaching profession in relation to that of all highly skilled personnel.

Thus while education was designed for a small minority, teacher supply and demand were dealt with independently outside the more general context of events affecting skilled personnel as a whole. The educational system retained the teachers it needed, not without affecting education's impact on other branches of activity.

The position occupied by the teaching profession in the highly skilled labour force

The nature of the problem has been affected by its change in size. The continuation of the teaching profession on the

TABLE 100

Percentage of highly qualified manpower(1) in educational services

	Percentage total HQM(2)	Percentage total HQM(2) in services	Percentage teachers of total HQM(2) in educational services
Belgium (1961)	33.4	51.4	94.5
Canada (1961)	19.8	35.3	-
Denmark (1960)	23.3	30.8	92.8
United States (1960)	18.3	38.0	78.6
France (1962)	20.3	36.6	-
Great Britain (1961)	19.8	33.7	92.7
Ireland (1961)	29.3	36.7	-
Japan (1960)	25.7	41.0	97.1
Norway (1960)	20.9	33.3	96.4
Netherlands (1960)	22.7	36.9	-
Sweden (1960)	18.0	35.2	94.2

(1) Occupational group 0 (professional, technical and related workers) and 1 (administrative, executive and managerial workers).

(2) HQM = Highly qualified manpower.

Source: Statistics of the Occupational and Educational Structure of the Labour Force in 53 countries, OECD, Paris, 1969.

basis of a closed corporation was no longer possible when many student teachers and established staff left education for other sectors, and personnel has to be found outside the traditional sources of recruitment (that is, originally, within education). The inclusion of educational staff in the highly qualified labour force can be amply justified on the grounds that teachers and administrators represent a large proportion of all highly skilled personnel and also of those in services. Table 100, compiled from the latest census material shows, according to the classifications used by each country, that staff in educational services still represent from one-fifth to one-third of all highly qualified manpower. The proportion in services is of course considerable: 30 to 40 per cent. Except in two countries (Germany and the United States), 90 per cent of educational staff consists of teachers. Lack of comparable data prevents trends, since the previous census, from being analysed, with the exception of the United States where, in the ten years from 1950 to 1960, the proportion of educational staff in all highly qualified manpower rose from 15.4 to 18.3 per cent, and of that in service occupations from 34.7 to 38 per cent. A final interesting point is that changes due to the growth of education in the United States have resulted in an increase in the number of non-teaching staff. The proportion of teachers in educational services thus declined from 81.6 per cent in 1950 to 78.6 per cent in 1960. Other countries might do well to check up on this greater diversification in the personnel employed.

Need for including teachers in overall highly-qualified manpower requirements

One of the traditional theories in economics is that an increase in wages causes an improvement in the supply of graduates employed in the various sectors. One difference, however, is that education is handicapped in comparison to the private or semi-public sectors by the lack of flexibility in the salary system - and which in some countries affects the civil service as a whole - and by the inadequate funds appropriated for education.

Assuming that educational wage policy had been able to adjust more easily to changes in the market of skills, the danger in an expanding economy, still chronically subject to shortages of highly skilled manpower, would be continuous tension in the wage situation without any hope of a prompt increase in supply. It may in fact take some time for the educational system to respond, depending on its structure, content and style. The traditional syllabuses of the different types of education do not cover a sufficiently wide range of subjects to allow any rapid adjustment to wage trends by re-deploying the person receiving the training. A special form of training, subject to certain conditions of admission and length of study, is needed to become a teacher. Thus the wholesale recruitment of teachers known to be uncertificated - in the sense understood by each national authority - has done little to improve the immage of the teacher, whose inadequate professional standards were a cause for regret.

Wages are not the only incentive; other equally important factors are: career prospects, working conditions, education's dynamic qualities, and environment. Women are apt to pay greater attention to the duties and their flexibility than to the amount of money they receive.

These various arguments seem therefore to support a better assimilation of teacher supply and demand to those of other highly qualified personnel (trained beyond secondary education). A study of this type could determine the various requirements, the possibility of meeting them either by means of the different types of initial education or of continued training or vocational mobility. Possible measures of substitution can then be considered, in the light of any inconsistencies which might appear and the order of priority adopted among the three major groups of highly qualified manpower: teaching staff - since they must first be trained before they can train the manpower required; research staff - since scientific research is a basic requisite for twentieth-century technological growth; and other skilled manpower responsible for applying and developing innovations, activities which require even greater numbers and increasingly better training. Certainly studies describing the overall growth in the supply and demand of highly skilled manpower do not yet give entire satisfaction(1) but during the initial stage they may make it possible for the importance of the problem to be grasped. The Mediterranean Regional Project report for Italy provides an example. Changes due to industrialization have widened the gap between the community's graduate requirements and the present output of training institutions. Although this example is specific to Italy, it brings out the major difficulties a country may have to face when planning its training and recruiting strategy for skilled manpower.

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(1) See: Manpower Forecasting in Educational Planning, Document Series, Directorate for Scientific Affairs, O.E.C.D., 1967.

Traditional operation of the educational system and availability of highly skilled manpower

The Mediterranean Regional Project on Italy (covering the period 1960-1975) found that, if teacher requirements were to be met in full, on the basis of the number of those graduating from higher education (holder's of higher education diplomas or degrees) then 83.5 per cent of these graduates would be absorbed by education. This assumes that all technical and vocational subject teachers as well as primary and practical teachers would have at least a diploma from higher education. If, however, as is now planned by the Ministry of Education, training for primary and practical teachers at higher level is postponed, and if it is also assumed that a degree or higher diploma must be held by all teachers in lower and upper secondary and in higher education, and by three-fourths of those in technical schools, than 50 per cent of those graduating (taking into account the rate of entry into the labour force) would be needed.

If first preference is given to increasing the length and level of training of the entire teaching profession, the assumptions considered in the MRP Report may pose a well-nigh insoluble problem (since 83.5 per cent of graduates would be needed). Recourse to some form of "extra-mural" training, to promotion and more moderate reforms (such as a one- or two-year course for primary teachers, instead of a higher education diploma) thus seem to be necessary for teachers and other highly skilled manpower.

Italy is not an isolated example. Yugoslavia, from 1965-66 to 1969-70, would have had to recruit 80.7 per cent of the graduates from faculties of natural sciences and technology for its secondary schools. When this high rate is compared with that forecast for the second period (1970-71 to 1974-75), i.e. 35.2 per cent, it can reasonably be argued that recruitment should be spread over both periods.

Some countries have felt the need to bring out their various recruitment requirements and the possibilities of meeting them. France may be used as an example. When the Third and Fourth Economic and Social Development Plans were prepared, the commissions dealing with manpower and school facilities worked separately. The former commission tried to find a quantitative balance for employment during the period covered, while the second, for teachers, proposed average annual recruitments. It was not until the Fifth Plan (1966-1970) that a joint "occupational training and upgrading" group set about analysing manpower supply and demand by level of training.

On the basis of the figures obtained it was estimated that the recruitment of teaching staff (except in higher education) would account for some 40 per cent of all graduates from higher education. Preparation of the Sixth Development Plan will permit the previous calculations to be refined and improved.

In England, for instance, the last report of the National Advisory Council dealing with teacher training and recruitment states that by the eighties the educational system (including higher education) will have to drain some 50 per cent of the yearly flow of those receiving any type of higher education, if it is to function properly. A special report on highly qualified manpower in general has been drawn up, while a working party has been created to study supply and demand relating more particularly to scientific and technical personnel, where competition is keen. It was thus recently noticed that the drain by higher education of its own graduates had increased the difficulty of recruiting specialists for industry and of teachers for secondary education. In Sweden various commissions have also analysed long-term prospects for highly skilled manpower. Despite any reservations their initial work may call for, it is significant to note that in this country the responsible commission pointed out apparent inconsistencies of recruitment as between sectors, including education. It even suggested that the growth rate for the educational system be reduced.

In Austria it has been estimated that the proportion of general and technical secondary teachers in all university (or university-level) graduates would rise from 13 per cent in 1965 to 20 per cent in 1975 (the proportion was 10 per cent in 1951). This would have the effect of draining some 26 per cent of graduates between 1965 and 1975 (21 per cent from 1965 to 1970 and 29 per cent from 1970 to 1975). This percentage would of course have been higher had teachers in higher education been taken into consideration.

The growing importance in higher education of student-teacher recruitment and training for assignment to primary schools also implies that the utilization of all holders of certificates above secondary level should be considered. In most cases the type of training they now receive, unlike teacher candidates for secondary and higher education, affords only a narrow range of job opportunities. The present tendency in training future teachers and many other categories of highly skilled manpower is towards a broader range of common subjects in the initial stage so as to make adjustment to the market for skills more flexible, and to facilitate movement from one sector of activity to another. Such a trend will itself require that the training and recruitment of highly qualified manpower - including those assigned to education - be increasingly studied at national level.

The initial findings concerning the continued growth of teacher demand in an economy where there is a heavy demand for highly skilled manpower were, however, based on standards which govern the present educational system. In the most advanced countries it would thus be difficult to claim that the recruitment of highly skilled manpower, particularly scientific and technical personnel, into education and other sectors is becoming structurally unbalanced when the output of many educational systems is so small. The considerable wastage encountered in both secondary(1) and higher(2) education - wastage whose different roots can be traced to the screening and guidance process, and to the content of curricula and style of teaching, calls in question the efficiency of training patterns. The actual growth in student numbers in the various types of higher education has already made it possible - for the period 1965 to 1970 - to improve the recruitment of certain types of teachers, contrary to the forecasts which had been made. In the short- and medium-term, recourse is had mainly to makeshift measures which try to reconcile scarce resources with heavy requirements, in line with priority needs. But at the same time, since the delayed response of the educational system must be taken into account, countries are increasingly adopting long-term policies based on radical changes of structure, content and dimension(1).

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(1) See section entitled "Efficiency, Wastage, Failures and Dropouts", Chapter I, Development in Secondary Education: Trends and Implications, O.E.C.D., Paris, 1969.

(2) See: "Statistical Aspects of the Development of Higher Education", Development of Higher Education-Analytical Report, Chapter VI, 1950-1967, O.E.C.D. (to be published in 1971).

The steady growth of the teaching body to comply with a given pupil/class ratio, and the ensuing cost, also raise the question of teacher utilization. New teaching methods may well destroy the traditional class concept, and it may be argued that a better division of labour would promote a more effective deployment of a skill potential considered to be scarce.

In view of what is expected of education during the next twenty or thirty years - as outlined in Part III of this survey - should not the content and style of the training now being given to the different groups of teachers be re-appraised? The role proposed for the teacher requires that recruitment of a high standard be maintained, which implies and hence promotes a more rational use of personnel in education, as has already taken place in various ways in other activities. Such a change, designed to develop the teacher's dynamic qualities and receptiveness to innovation can but enhance his professional capacities and hence his status as a member of the highly skilled labour force.

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(1) Reference may be made to the various case-studies on innovation in higher education published by the O.E.C.D.

PART TWO

TEACHER RECRUITMENT AND UTILIZATION POLICY

To meet the challenge of the continually growing demand for teachers, the educational authorities in most countries have been obliged to define and systematically apply a veritable teacher recruitment and utilization policy.

As we have seen, the results obtained have in most cases made it possible to meet needs, although not always to maintain the usual recruitment standards, or to improve them - an often desirable element in view of the reforms being carried out.

Some of the difficulties encountered while applying these policies have been noted, but it was often difficult to judge the actual consequences of the decisions taken for the growth of education and each of the levels concerned, for the simple reason that very little research has been done on the subject. Up to now, no serious study or accurate assessment has been made of the different policies for recruiting and utilizing teachers, although it is true that the overlapping or superimposing of the different measures - generally adopted under pressure of events - does not allow us to isolate any specific action from the various factors.

The recruitment of teachers is a very complicated operation: any change, however slight, to the statute of teachers has consequences which go far beyond its immediate purpose. These complications have naturally been taken into consideration when examining the effect of individual decisions which, in practice, have been associated with a great number of others. In addition, it was decided to apply certain short-term measures, and this explains why the results have not yet been assessed. This does not affect their usefulness, for no country can be certain of avoiding a situation in which it would itself be forced to apply urgent measures or exceptional procedures.

The objective of the policies examined in this report was first to provide a teacher for each class under legal appointment conditions. But, as the educational systems grew, the role of teaching changed, and the measures adopted often take this into account.

In the years to come, it will be necessary to find not only teachers in sufficient numbers, but with the necessary qualifications to meet the requirements laid down in Part III of this report, dealing with training problems. Some aspects of the policy described, in particular those concerning changes in the teachers' statute, already try to meet the new qualitative conditions which, in the near future, will govern staff recruitment in many countries.

The second part of this report will deal first with the special efforts made to attract as many student teachers as possible to teaching while training, or on leaving school. As this first source of recruitment proved insufficient, other means were resorted to - either a temporary lowering of the level for certificate holders, or the more systematic use of the potential existing at national level. The various series of measures taken will be listed when the socio-economic aspect of the teachers' statute is examined - measures which are intended not only to attract as many candidates as possible to teaching but to dissuade those already teaching from leaving in mid-career. Finally, whether at national level or within each school, the most efficient use must be made of the qualified staff available by so utilizing them as to create conditions that will provide maximum working efficiency.

CHAPTER I

THE RECRUITMENT OF STUDENT TEACHERS

However varied the sources may be from which teachers are recruited, most of the beginners who enter the teaching profession are young diploma-holders from the training colleges. The dual need to facilitate their recruitment and accelerate their training has made necessary the adoption of various measures by the States. These policies were to meet the two following needs: first, to attract the maximum number of secondary school students or university graduates into teacher training colleges and secondly to increase the number of available places at these colleges and consequently the number of trained teachers they produce.

1. Policies to Intensify the Recruitment of Student Teachers

The decision of a secondary school pupil or university student to train for teaching depends on his conception (true or false) of the importance of the profession. Consequently, among the general factors likely to influence recruitment are found: the socio-economic status which is offered to them, personal motivations, and attitudes towards the present trends in education. The development of a recruitment policy therefore depends on a knowledge of the intentions of students and the conception they have of a career in the profession. Individual surveys may be conducted to ascertain the most appropriate type of information best suited to the particular situation in each country. The experiment carried out in England and Wales is of interest when considering the choice of a career in teaching. The results of a survey carried out among all university students in their final year were published in 1965. They showed that the teaching profession continued to be very attractive to women, whereas most men who had not yet settled on a career tended to reject teaching. Three reasons were given: salary level, opportunities of promotion and the actual interest of the work. Such detailed investigations are important as they focus attention on demands which may subsequently have implications for recruitment. The recruitment of student teachers may therefore be promoted by information campaigns and effective financial assistance.

(a) Information regarding the teaching profession

The above-mentioned survey among students showed their ignorance of the real facts of the teaching profession. Students were ill-informed as to salary scales, opportunities of promotion and the value of any changes likely to occur in the functions and responsibilities of teachers. This was taken into account in the information campaigns, which may take various forms; they may be intended directly for secondary school or university students, or take the form of national campaigns detailing the advantages of a teaching career, and in the latter case are intended as much for families as for young people.

Information for potential student teachers

At the outset information may be circulated to students in the form of brochures. For example, in the Netherlands brochures have been distributed to pupils in secondary schools under the title "Your future for their future". This procedure has also been used in Germany, the United Kingdom, Sweden and Canada, not to mention other Member countries. In Sweden, films have also been projected for pupils in grammar schools.

Briefing sessions may also be organised both inside and outside schools, and universities. For example, in many of the provinces of Canada, pupils in their two final years of secondary school can discuss the teaching profession with a recruiting official. In some provinces pupils can obtain information on the advantages of the teaching profession from their school career branch. In Sweden, briefing sessions are given at the University.

Pupils approaching the end of their secondary schooling may have their interest aroused by the work they are set as part of a civics or sociology course. For example, in Germany, working parties have been set up in certain Länder to study pedagogics. In Bavaria, visits to primary schools are organised for pupils in their two final years at classical secondary schools.

Contacts may be developed between students and young graduate teachers. This procedure has been adopted in England and Wales to enable young teachers to give potential student teachers information on the main features of a teacher's job.

General publicity

Information campaigns designed for the public at large may also be organised in the press and on the radio and television. Their scale and objectives will vary according to the standards set for the training, appointment and assignment of teachers or the degree of decentralization of the educational system.

Whereas in other sectors advertising and the diffusion of information are used to gain the public's attention, there is often reluctance to "contaminate" education by such practices. But if education needs specialists and has to compete for highly skilled manpower with other sectors of activity there is no reason to refrain from publicizing the advantages of work in this profession. Campaigns launched in the United Kingdom, Austria and the United States, with the help of modern publicity methods, have yielded good results. This policy has often received the active support of teachers' associations and other civic groups. It is important that such recruiting campaigns should be organised in close consultation with the teachers' unions. Teaching should be presented in its most favourable light, as are other professions: the qualifications required, the material advantages and status it offers, and the position it occupies in society.

The frequency and scale of information on teaching careers may be promoted by the establishment of a special agency for this purpose. In Sweden, there has been a regular supply of funds since June 1964 for the organisation of recruiting campaigns.

Apart from the merits of these schemes, the teacher himself can be an excellent source of propaganda; by his attitude and behaviour he may indirectly encourage his pupils to take up the same profession he is exercising with interest and enthusiasm.

(b) Aid to student teachers and the recruitment of teachers

Aid to student teachers may be used as an incentive either to increase overall teacher recruitment or to promote recruitment in certain groups of the community.

(i) Paucity of data

Financial aid to those training for teaching may be a way of attracting more candidates to the profession. As it is clearly not possible at the present time to make a detailed quantified study, we shall confine ourselves to a description of the various policies. The scarcity and complexity of available data as well as their lack of uniformity and their fragmentary character make international comparison almost impossible(1). Before embarking on such comparisons thorough surveys would have to be carried out concerning the composition of a student teacher's budget, clearly showing its various items (enrolment fees and maintenance costs on the one hand and direct or indirect aid on the other)(2). Information about aid is incomplete as the only figures available are those of the principal public or semi-governmental bodies responsible for granting aid. But very often the latter is supplemented by aid from other public bodies (municipalities - regional authorities) or private sources (foundations, business or industrial concerns).

Indirect aid can and must be taken into consideration. Many training colleges are organised as boarding schools. The policy of the responsible authorities may be to provide board and lodging at less than its real cost. For example, in Turkey, training colleges for primary teachers have introduced free board and lodging. Training colleges, as in Yugoslavia, may be located in the smaller towns where the cost of living is lower in order to attract more students. The real saving resulting from some advantages is difficult to assess, e.g., exemptions from enrolment fees. In training colleges for primary teachers in Portugal during the period 1960-61, 3.04 per cent of student teachers had scholarships and 8.3 per cent were excused fees (in 1964-65, 3.97 per cent were scholarship holders and 7.44 per cent were excused fees).

Certain advantages affecting the student teacher's family may also be taken into account. For example, Table 101 shows the percentage of student teachers in Yugoslavia entitled to family allowances.

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(1) See P. Laderrière: "Policy Problems arising from Aid to Students" in Some Problems of the Development of Higher Education in Europe. Conference papers and report of sessions at the Seminar organised jointly by the Belgian Ministry of Education and Cultural Affairs and the Directorate of Scientific Affairs, O.E.C.D., at the Centre Universitaire, Antwerp, from 19th to 30th September, 1966.

(2) Direct aid may be given in the form of actual grants to the student or his family (scholarships, loans, pre-salaries). Indirect aid takes the form of tax relief, higher family allowances, and covers the various cheap or low-cost services available to the student apart from the education he receives (restaurants, lodging, medical attention, etc.).

TABLE 101

Percentage of student teachers receiving family allowances in Yugoslavia

Type of training college	1955-56	1960-61	1964-65
Advanced training colleges (two years)	22.3	16.7	21.1
Universities, colleges and art schools training teachers	44.4	35.6	42.5

As it is impossible to obtain figures showing the numbers eligible for the various types of aid, attention will be concentrated on the proportion of student teachers drawing direct aid (scholarship, loan, pre-salary).

To consider whether current legislation favours student teachers it would have to be compared with legislation affecting students who have not shown any intention of training for the teaching profession. Here comparisons are difficult, for the available statistics do not always differentiate between students in receipt of aid. Nor is a breakdown of beneficiaries always possible as future teachers have the same syllabus as other students before they specialize. In some countries, under the legislation in force, all students whatever their subject, are eligible for aid according to different criteria (examination results, family resources, place of residence, etc.). For example, in Sweden it is felt that student aid should not be an instrument for channelling students into one or other type of training. At the end of the secondary course, all would-be students, whether going on to the university or to a non-university course of higher education (training colleges for primary teachers) may receive a loan the amount of which does not vary according to the course selected, and does not have to be repaid in full. Although this was not intended, the new Act has improved the terms of direct aid to future primary teachers; previously these were awarded scholarships (based on their family resources) which were smaller than those offered to university students (S.Kr.960 as compared with an average of S.Kr.2,800, although these S.Kr.960 were supplemented by more indirect aid in the case of autonomous teacher training colleges). From now on, all students, including student teachers at all levels, may obtain a loan (exceeding the value of the scholarships which used to be awarded). The legislative change in 1964 has therefore had a positive effect, which was not initially sought, and which has indirectly helped students to decide to take up teaching in primary schools.

(ii) Additional aid for student teachers

Direct aid for student teachers may be increased in order to promote and maintain the recruitment of teachers from the poorer sectors of the community. As no data are available regarding the social origins of beneficiaries (or the volume of aid granted) considerable caution has to be exercised in drawing conclusions, as shown in the Table 102.

For example, in Japan (see Table 102) student teachers seem to be favoured as compared with other students. In 1964, a different, special system of aid was introduced in order to attract the more gifted students into the university teacher-training courses(1).

TABLE 102

Percentage of students receiving direct aid in Japan

	University		Advanced training colleges for technical teachers
	Teacher training	Other faculties	
1956	69.8	19.3	-
1960	46.4	15.0	-
1961	45.9	14.8	-
1962	40.2	14.3	-
1963	45.5	18.0	56.4
1964	48.3	16.3	60.5
1965	34.8	14.0	62.5

Source: "Education in 1960, 1961 ....", Annual Report of the Ministry of Education, Government of Japan.

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(1) Educational Standards in Japan 1964, Ministry of Education.

Although no exact figures are available in Greece future teachers apparently obtain proportionately more scholarships than other students. Thus, in 1965-66 the percentage of aid to students at advanced colleges for training primary school teachers (9.35 per cent) was higher than that to university students (2.8 per cent).

In Portugal student teachers apparently obtain more aid, since the Ministry of Education provides only 300 scholarships for university study (there were 26,284 students in 1964-65) whereas 19.3 per cent of graduates taking a teacher training course obtained a scholarship in 1964. In general secondary schools the maximum number of scholarships is 50 (144,567 pupils in 1964) and in the technical secondary 60 (100,323 pupils in 1964) whereas in 1964-65 scholarships were awarded to 3.97 per cent of the students attending training colleges for primary teachers.

In Yugoslavia a considerable effort has also been made in favour of direct aid to student teachers. Table 103 shows a decline in the volume of aid provided in the form of scholarships. This is due to the fact that scholarships are gradually being replaced by interest-free loans which are considered more effective. In view of recruitment difficulties, priority for these loans is given to student teachers. In some republics, up to 40 per cent of student loan funds are awarded to student teachers. The percentage of student teachers in receipt of direct aid was about double that for other students in 1955 and 1960, and more than double in 1964.

These two examples, in spite of the vagueness of the figures available, seem to show that some countries tend to favour student teachers. This trend is still clearer in countries where the legislation systematically offers direct aid to all future teachers. An examination of the policies adopted in this respect supplements these few quantitative data.

(iii) Incentives without statutory obligations

In addition to the incentive in the form of direct aid to student teachers there are various advantages designed to encourage students, whose subjects concern education, definitely to enter the profession.

Exemption from repayment of educational loans

When direct aid takes the form of a loan, teachers are exempted from repayment during their period of training. For example, in Japan, graduates entering the teaching profession are exempted from the repayment of the whole or part of the sum they owe according to the number of years service they complete(1).

TABLE 103

Direct aid to student teachers and other students in Yugoslavia

	1955–1956	1960–1961	1964–1965
Training colleges for primary teachers (secondary level)	17.5	36.5	22.1
Advanced training colleges (scholarships)	21.4	29.0	18.0
Advanced training colleges (salary)	-	4.1	2.2
Faculties, colleges, and art schools training teachers (scholarships)	13.5	21.0	17.3
(Salary)	-	2.9	3.7
All training colleges	16.3	30.7	19.8
Other types of schools	8.3	15.5	7.8

At the beginning of the 1950's the Netherlands decided, in view of the difficulty in recruiting teachers, that graduates who had received loans during their studies should have 20 per cent of their debt remitted for each year spent in teaching.

Specific aids

A pre-salary is frequently awarded to graduates in their final year(s) of training which generally consist of teaching practice. It is paid to graduates doing part-time supervised teaching and has an indirect influence on recruitment since the student can finish his training under easier conditions. For example, in the canton of Geneva, in Switzerland, this type of training is spread over two years during which students are allowed, under supervision, to replace absent teachers and are paid for their services.

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(1) Education in Japan, Ministry of Education, (A graphic presentation - revised in April 1967).

In Sweden the final year is also considered as a year of teaching and is remunerated accordingly. In Italy the parliamentary commission set up to inquire into the state educational system has also proposed, as part of the teacher training reform, that the final year of training should be considered as a year of teaching paid at a slightly lower rate than the starting salary.

In Portugal it is envisaged that in future payment will be made to primary and secondary school student teachers doing their school practice. As a first stage it is suggested that scholarships should be granted on examination results. At the present time the number of scholarships is fixed and that of the beneficiaries consequently limited.

The possibility of offering systematic direct aid to all students taking a specific teacher training course also exists. In Luxembourg student teachers at the Institut Pédagogique receive a pre-salary. In Italy a proportion of the direct aid in technical schools is designed as an indirect incentive to certain pupils to take up teaching. Scholarships are awarded to pupils with a secondary school certificate to enable them to take a year's course to qualify them for posts as instructors in technical institutes. Six-month scholarships are also available for the training of teachers of "practical subjects".

As the award of a scholarship does not entail a legal obligation to teach, student teachers who have received this type of scholarship do not always enter the profession. To avoid this, some countries have made it a statutory obligation for students accepting direct aid to serve as teachers for a fixed period.

(iv) Direct aid entailing an obligation to teach

Obligation to teach is not necessarily confined to the acceptation of direct aid. The mere fact that a student enrols in a training college and avails himself of its courses may entail a commitment on his part.

Enrolment for teacher training and obligation to teach

For example in Ireland, when a student teacher enters a training college for primary teachers he is required to sign an undertaking, endorsed by his parents or guardian, to teach for at least five years; if he fails to teach for this period he is required to refund the cost of his training. In the Netherlands the same applies to full-time students at training colleges for technical teachers if they do not subsequently teach.

In Greece the Act on the organisation and administration of general education(1) states that students attending accelerated university teacher training courses in certain subjects in which there is a shortage of teachers must teach for at least five years in a state school. In Turkey student teachers at advanced training colleges for technical teachers undertake to serve for at least six years in education in exchange for the free board and lodging they receive.

The practice of obliging students to teach on completion of training may well be explained by the cost of the additional staff required, the more elaborate equipment and the low enrolment fees. But this obligation is justified in particular by the substantial aid received during their period of training.

Direct aid and obligation to teach

The obligations which trained teachers who have accepted aid are required to accept may cover several types of training, and their implications may vary according to the practices which govern recruitment in the civil service of the country concerned.

Examples:

The salaries of serving teachers who attend a training course are paid in full. In Greece a residence allowance is also paid to those attending the training college for technical and vocational teachers. On the completion of the course the teacher goes back to his post. In one particular case, i.e. supernumerary students admitted to Greek universities (i.e. pupils who leave classical secondary schools with a first class honours certificate but do not hold the academic certificate), a state scholarship may be obtained for the period of the course, but recipients are required to teach in a state school for at least five years.

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(1) Article 15 (decree 4379/1964).

As the training colleges for technical teachers often recruit trainees who are already occupationally qualified, fairly substantial direct aid must be offered them since they are giving up their employment. The total cost of their training may require some obligations to be accepted. For example, in Ireland student teachers at technical training colleges all receive a scholarship and a weekly maintenance allowance. They undertake to teach at least five years or to refund the cost of their training. When their training requires them to do a good deal of practical teaching in schools, part of their allowance may be considered as some kind of remuneration for their (supervised) teaching.

In training colleges for primary teachers in the canton of Geneva in Switzerland, a pre-salary is offered during the three-year course on condition that trainees undertake to teach for five years in state schools.

For a considerable time now France has been applying legislation in respect of some of its future teachers whereby all educational fees and maintenance costs for certain categories of civil servants are borne by the community. Students receiving a pre-salary undertake to enter government service on completing their education. Primary and secondary school teachers at independent training colleges, to which they are admitted by competitive examination, are eligible for this scheme. Although the state can vary the number of posts offered in line with the estimates of teacher supply and demand, successful students whatever their social origin obtain a much larger amount of direct aid than they would in the form of a scholarship or loan. In fact, the future teacher receives, after passing the baccalauréat examination, a real pre-salary which entails an obligation to work for the Ministry of Education after training (supply teacher) for ten years and, for secondary school teachers for ten years including the training period.

In France, the possibility of using a "parallel channel" exists for the lower section of short modern general secondary school pupils from modest homes to obtain access to training colleges for primary teachers. This justifies the allocation of maintenance allowances designed to cover each pupil's expenses while preparing for the baccalauréat.

The pre-salary offered to student teachers in specialized training colleges (of which few exist) and to graduates who do a year's educational training has not been sufficient to accelerate the recruitment of teachers for secondary schools. After 1956 the French authorities set up IPES (training institutes for secondary school teachers) in their universities and it was decided to "pre-recruit" a number of future teachers by organising a competitive examination for students who had completed their first year. Although IPES are not intended to provide teacher training, the teaching staff has been increased to enable students to pass their degree examinations more easily. They receive a pre-salary which corresponds to twice the amount of the highest scholarship.

In Luxembourg, legislation is being prepared to change the present situation, since the pre-salary does not entail any legal undertaking to teach. In Portugal it has also been suggested, as a project for the third development plan, that scholarships should be offered to students in higher education and pupils at secondary and middle schools who are prepared to teach in state schools for some years on completion of their training.

(v) Difficulty of assessing results

The absence of any detailed surveys on the effects of aid to students makes it impossible to give any exact results of these experiments. Other factors besides aid to student teachers may have come into play and in present circumstances it is difficult to separate them. In Japan and Yugoslavia, the higher amount of direct aid given to student teachers than to other types of students seems to have improved recruitment. In the Netherlands the authorities consider that the legislation whereby students who take up teaching have their educational loans remitted has served its purpose and was discontinued as from 1967. In France the undertaking by students to teach enabled the authorities to maintain a minimum flow of recruits to the profession for about ten years. The IPES experiment in particular managed to provide secondary schools with adequately qualified teachers at a period when highly qualified manpower was fully employed and even over-employed. As the demand for science graduates was very strong, it was not possible to fill all vacancies advertised at the beginning of the experiment, but these institutes seem generally to have contributed to an increase in the number of graduates obtaining teaching qualifications.

The respective merits of the various types of aid to student teachers should be closely investigated, with special reference to two points which have aroused controversy.

The first concerns their respective costs. This problem is often considered in the more general context of aid to students as a whole. For example, a recent report by a commission set up to enquire into state aid to students in France(1) recalled that, of the Frs.280 million granted in 1966-1967 to 100,000 scholarship-holders (on the basis of social background and educational performance), Frs.195 million went to about 13,000 students at IPES establishments and advanced training colleges (on the basis of educational performance only) or about 70 per cent of total scholarship appropriations. It is possible that such large allocations might act as an indirect brake on aid which ought to be available for needy students irrespective of their course of study. The future will show whether this will prove to be a temporary measure made necessary by circumstances, or whether the stimulant provided by IPES will be definitely institutionalised.

The second point concerns the discussion between those who support neutrality in granting aid and those who have chosen selective aid - admittedly because in most cases they had no option - to encourage the recruitment of future teachers. The former consider that those students with financial difficulties are tempted to go in for the better-financed types of training with the result that the career followed is not the one the student would have chosen. The discussion still continues where no exhaustive survey has been made on the social origins of students who decide to take up teaching.

(vi) Social origins of teachers and recruitment possibilities

In view of the problems raised by the increasing demand for teachers, the question might be raised as to the possibility of the existence of "reserves of talent" in certain groups of the community. The proportion of secondary school teachers already coming from the top socio-economic groups would be difficult to increase in the future. But apart from the quantitative aspect there are other arguments in favour of recruiting teachers from new socio-economic groups. The raising of the school-leaving age might be a justification for ensuring that the gap between the social origin of teachers and of their pupils is not too great. The observation and guidance of school children calls for close contact between the different categories of teachers, particularly in primary and secondary schools. The lack of understanding sometimes noted among the different categories of teachers is thought to be due in part to substantial differences in social origin, reinforced by completely different types of training. As each level of education becomes increasingly dependent on a preceding or subsequent level the task of keeping communications open between the various categories of teachers may be facilitated by increasing the number of teachers from social strata which are now insufficiently represented, particularly in secondary education. Contact with the pupils' families may also be encouraged by such a trend. This objective can be achieved only as part of the action taken to democratize access to the highest levels of the profession. Direct or indirect aid can be only one of the aspects of an overall policy certain features of which should be recalled.

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(1) Called the "Airgrain Report", after the Chairman of the Committee which prepared it.

Recruitment of teachers and democratization of access to education

As there are very few data on the social origin of new recruits to the profession or of teachers already serving, reference is sometimes made to general information concerning the social origin of students or graduates from whom teachers may be recruited.

Although the few available statistics must be treated with reserve (Tables 105 to 107), the recruiting of teachers apparently varies according to their socio-economic category, and this is logical. As the educational system trains its own teachers, the latter depend on the democratization of access to the higher teaching levels. It seems therefore that to use available "reserves of talent" from the least favoured social strata to increase the number of teachers calls for the application of a systematic policy for democratizing access to education. This policy would be mainly concerned in changing the content and style of education once the structure had been adopted (raising the school-leaving age, fostering closer contacts between primary and secondary education, diversifying courses at the highest levels, etc.). Students from the more modest social strata might be encouraged to remain longer at school by providing the more individual attention which is a distinctive feature of the new systems, including the filling of any gaps in the student's education.

When the pupils' work has been followed more closely it has proved possible to recruit students from the more modest socio-economic groups. For example, Table 104 shows that primary school teachers often come from more modest social strata than secondary school teachers. They used to be (and still occasionally are) trained at colleges of upper secondary or post-secondary level. In fact the recruitment channels mentioned above met the case sufficiently to attract and retain students from modest homes. The job of primary school teacher has in fact provided some of them with more rapid promotion possibilities (in one or two generations) than other jobs would have done. This also made it possible, when educating the new layers of population, to use teachers many of whom come from the same class as the children who are just starting school. This tendency will probably not be encouraged by the present trend - for the reasons given in Part Three - for students for teacher training (including primary) colleges to be increasingly recruited at the final secondary leaving certificate stage rather than at the end of lower secondary school.

It has been noted in Sweden for example, that drop-outs due to social causes occur mainly at the end of the lower secondary course rather than at subsequent levels(1).

In France (Table 107) there is now a difference in the social origin of students entering training colleges depending on whether they are recruited at the end of the lower secondary course (1st competitive examination) or after the baccalauréat (2nd competitive examination).

It may therefore be wondered, particularly in the present transitional period, whether access to upper secondary education (and perhaps lower secondary) will be sufficiently democratized to enable enough teachers of modest origin to be recruited at the end of their secondary schooling. Where former teacher training courses have been converted into secondary schools it is not certain that the pupils they recruit, particularly in rural areas, will continue to flow into the new teacher training colleges which operate at university level. In Austria, the conversion of teacher training colleges into secondary schools should be carefully studied from this point of view.

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(1) Educational Policy and Planning, Sweden, O.E.C.D., Paris, 1967.

Changes now occurring in training methods at the higher level may also encourage the recruitment of teachers from the more modest social strata.

It has, in fact, been noted that children from a more modest background who are able to complete their secondary schooling tend to take up advanced courses in either technical subjects or in those which offer the chance of more immediate employment. Allowances should be made for this attitude which, in view of present-day trends, is in line with the new tendency in the training of teachers, i.e., a thorough but not over-lengthy vocational training, in view of the need to combine the initial vocational training with subsequent refresher courses. This might explain why certain countries whose universities have as yet made no changes in the length, much less the content, of their specialized syllabuses for teachers have preferred to maintain autonomous institutes which train teachers for primary schools and sometimes for lower secondary schools. Incidentally, these institutions are increasing their contacts with the universities.

The question then arises as to whether aid to student teachers should not therefore be seens as part of a general policy to prevent wastage among students from the poorer sections of the community.

The role of aid to student teachers

We have seen how difficult it was to estimate the specific support which aid can give to extending the recruitment of teachers to new social groups. Aid granted directly certainly acts as an incentive, but it is other factors which incite pupils to take up teaching: the teaching staff, length of course, impression of being able to play an active part, etc.

Nevertheless, it has been stated in Ireland that the high proportion of loans granted to student teachers at training colleges for primary teachers has influenced the social composition of those attending these colleges (Table 106).

In 1961-62, about 47 per cent of student teachers were in receipt of these loans. Conversely, the low proportion of aid to students at training colleges for domestic science teachers (8 to

TABLE 104

Social origin of serving teachers in France (1964)

Socio-economic categories	Serving secondary teachers (1964)	Serving primary teachers (1964)
Farms and farm workers	3	13
Operatives	10	27
Office staff	17	19
Medium-level executives (including primary teachers, and businessmen)	28	31
Higher executives (including university and secondary teachers and professional classes)	42	10

Source: "La représentation de la condition du maître dans la Société", (the social image of teachers), Enfance, Nos. 2, 3, April, September, 1966.

TABLE 105

Social origin of graduates, etc., who have the opportunity of becoming teachers and the proportion of these categories in the active population living in Italy

(1960-63)

(in percentage)

	Businessmen and professional workers	Managers and office staff	Self-employed	Wage earners	Family workers	Situation not stated, or without occupation
Active population, 1961 census	1.4	12.7	19.7	55.7	10.5	
Teaching diploma 1962-1963	6.6	32.2	34.5	19.8	0.3	5.6
Science degree 1960-1961	12.0	46.5	28.2	10.2	0.2	2.9
Arts degree 1960-1961	10.4	43.3	26.4	13.8	0.2	5.9

TABLE 106

Social origin of students who have the opportunity of becoming teachers in Ireland (1963)

(in percentage)

	Farmers	Professions employers managers and senior salaried employees	Intermediate non-manual	Other non-manual	Skilled manual	Semi-skilled and un-skilled	Unemployed and deceased	No information	Total
Teacher training colleges									
Boys	17.4	16.5	10.7	7.4	6.6	7.5	2.5	31.4	100
Girls	39.1	17.8	13.0	3.6	4.7	4.4	3.6	13.8	100
Total	32.5	17.4	12.3	4.8	5.3	5.3	3.3	19.1	100
Universities									
Total	20.0	65.0		3.0	6.0	2.0	4.0	-	100
Domestic science teacher training colleges									
Total	33.0	41.0	19.0	-	-	7.0	-	-	100
Active population 1961(1)	28.9	10.8	15.1	- (2)	11.6	28.6	5.0(3)	-(2)	100

(1) Percentages calculated from Table 7.5 in the report referred to in the source.

(2) Not given in the base table referred to in (1) above.

(3) Percentage of unemployed: definition for this column given in the description of the various groups taken into consideration (report referred to in the source) - Part II "participation".

Source: Investment in education, Ireland, OECD, Paris, 1966.

TABLE 107

Social origin of students who have the opportunity of becoming teachers in France (1960-62)

(in percentage)

	Farmers	Paid farm workers	Businessmen	The professions and higher executives	Medium level executives	Office staff	Operatives	Services	Persons with private means - no occupation	Unspecified	Total
Teacher training colleges (1960-1961)											
1st competitive examination(1)	11.4	2.5	12.8	3.0	17.2	13.2	27.6	2.2	3.7	6.4	100
2nd competitive examination(2)	7.8	1.2	13.5	5.8	22.3	13.1	22.6	1.3	4.2	8.2	100
Total	10.8	2.1	13.0	3.7	18.3	13.3	26.0	2.1	4.0	6.7	100
Universities (1961-1962)											
Faculty of arts	5.8	0.8	18.9	25.1	23.0	6.1	7.2	0.9	6.1	6.1	100
Faculty of science	6.4	0.6	17.9	27.5	16.8	9.2	8.6	1.1	7.8	5.0	100
Total(3)	5.6	0.6	17.6	28.5	17.8	8.0	6.4	0.5	7.0	7.6	100
Active population 1962	15.7	4.3	10.4	4.0	7.8	12.6	36.7	5.4	3.1		100

(1) Entering a training college at upper secondary level to prepare the baccalauréat (these students have normally taken the short secondary course i.e. the lower level).

(2) Starting the first year's training at once, after the baccalauréat.

(3) All disciplines.

10 scholarships annually, there were 171 students in 1965-66) and at universities (less than 10 per cent of students in the past few years) may be one of the causes of the failure to democratize access to these institutions. In France the possibility of training free of charge for primary school posts has certainly done much to induce students to enter the profession. On leaving primary school, pupils from the more modest homes used not to enter the conventional types of secondary school particularly in rural areas where few of these schools were available. The short modern course which followed primary school was free of charge and the maintenance allowance obtained after admission to the training college, plus the pre-salary paid during the teacher-training year (after the baccalauréat) made it possible for the poorer families to keep their children at school and to orient them towards teaching. This may be seen from Table 104 (serving teachers) and in Table 107 (students admitted to the training school for primary teachers). But Table 104 (serving teachers) seems to show that in the absence of a specific channel, for example for future teachers in conventional types of secondary school, the award of scholarships at secondary and university levels has not enabled new teacher resources to be tapped in the less favoured sector of the community. The democratizing of the recruitment of teachers for both secondary and primary schools therefore seems to depend on much more sweeping reforms than a simple increase or improvement in aid to student teachers.

2. Re-organisation of Training Colleges

Independently of the incentives described precedently, the number of places offered at training colleges may be an indirect factor in increasing the flow of candidates. Part One of this Survey showed that most countries have increased the number of places in training colleges to meet the growing demand for teachers (Table 10). In order to do so, optimum use had to be made of existing colleges and other types of training provided.

(a) Optimum use of equipment

The more effective use of training colleges cannot be limited simply to internal reorganisation. The initial step must be to consider the context in which the available resources are to be used.

Changes in training colleges

The next part of this Survey shows in detail that changes in standards of teacher training tend to facilitate a more effective use of training colleges. In effect, there is a tendency in many countries to recruit future primary - and sometimes lower secondary - school teachers at the conclusion of their secondary schooling. Previously, training colleges were required to provide a complete or partial secondary schooling and this is still true in a number of countries. They provide a complete secondary course when their diploma is equivalent to that awarded by other types of secondary education and when certain students, sometimes for material reasons, prefer to attend them without always intending to teach. They provide a partial secondary course when their students are "pre-recruited" early and when their teacher syllabus includes part of a general education equivalent to that available at upper secondary level. As a large number of teachers had to be recruited, these colleges were largely decentralized, but with the increase in the duration of the course for primary teachers the problems of organising training colleges proved more difficult. In effect, these colleges had to offer general education of secondary school level overlapping higher education, and also theoretical and practical teacher training which was much more complete than before. A more efficient use of these training colleges therefore seemed inevitable. This is being achieved by using available resources for wider advanced training.

Changes in levels of training, and characteristics of training colleges

The rational use of the new equipment which training colleges should be able to offer their students in order to familiarize them with new educational techniques and methods may also bring about changes in the optimum number of students at training colleges and, consequently, their geographical distribution. Their advantage, when they are highly scattered, is that they are able to recruit more student teachers but they may be unable to benefit from the concentration of equipment which is sometimes expensive, and from the proximity of institutions with which contacts are increasingly necessary (universities, pedagogical institutes). For example, in Yugoslavia the authorities had considered that a wide dissemination of advanced training colleges (2-year course) was advisable but the efficient use of equipment and staff put a limit on the extent to which colleges could be dispersed. As the average number of students was no more than 340, plans to set up these training colleges had to be revised and the original principle of a restricted number was returned to.

Colleges may vary in size although, in view of the exigencies of recruitment and local circumstances, a minimum size must be fixed. For example, in Austria the smallest college might have 150 students, an average college 250 and the biggest 400 or more. In England and Wales the student body at training colleges ranges from 250 to 1,000.

There is a further factor in favour of the concentration of colleges and of their location in important centres, namely the number of classes available for teaching practice. For example, in Austria it has been calculated that the smallest training college would require at least 20 primary school classes, and the largest 50 to 60. However, the need to integrate theoretical and practical aspects of teacher training call for a new kind of training college(1). It therefore seems that the trend in teacher training curricula at independent training colleges is likely to have increasing influence on decisions concerning the size and location of these specialized schools.

As far as operating costs and even capital expenditure are concerned there is a danger that the gain in discontinuing general secondary education may be very substantially offset by the cost of reorganising and even rebuilding colleges which no longer correspond to previous standards, to the age of the new categories of student teachers and to the type of activities they will pursue during their training i.e. detailed study of one or two subjects, introduction to or contact with research, initiation into new teaching techniques, e.g. language laboratories or other audio-visual media.

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(1) The above remarks apply mainly to colleges preparing teachers for primary schools and those preparing teachers for both primary and secondary schools. The desirability of ensuring that training colleges should not be compelled to provide a general secondary education also applies to certain categories of training colleges for technical schools. Some of these colleges devote part of their staff and resources either to training teachers of general subjects for secondary, technical and vocational schools or to providing a general secondary education for certain categories of teachers. But certain general subjects can be studied at the university, and a background of general education may be acquired in specialized schools (evening classes, correspondence courses, etc.). If at some particular time technical and vocational courses need to be given a more specialized slant, the period of teacher training which follows normal education might be used for this purpose

Student teachers and their instructors

The quantitative and qualitative demand for instructors for the student teachers in training colleges will also raise problems. For example, initiation into new teaching techniques and methods and to personal research will change the number of staff; those who teach in the colleges will perhaps not all be required to teach in the new colleges recruiting at the end of secondary school. This is particularly true of teachers taking classes which complete general culture in secondary education. The syllabus changes and the new style of training will also perhaps make it necessary for the other more specialized teachers to take one of the regular refresher courses before they resume their teaching. In addition, in view of their new objectives, these schools will have to secure the services of university specialists as part of the desirable association between pedagogical research institutes, universities and training colleges. The presence of these teachers would, moreover, be a guarantee of the level of training offered by the colleges.

Few surveys and little documentation exist concerning the training of trainers. Nevertheless, the priority allocation of first-rate teachers to the new training colleges appears to be one of the conditions for obtaining properly trained staff capable of meeting the objectives of educational reform and conversant with the new techniques of communication.

A comparison between school and university results in independent training colleges and those in other types of education (universities or upper general secondary schools, for example) shows that the quality of the teachers and the teacher/student ratio at training colleges for primary or secondary teachers is a factor of success.

Moreover, these "trainers" will be increasingly required to supervise the refresher courses for teachers. It is in fact, increasingly necessary to bring together initial training, regular refresher courses and educational research. The premises, equipment and a large proportion of the teaching staff of the different types of training schools will also be used for these regular vocational training refresher courses. But even if the pedagogical methods used in refresher courses must differ from those used with student teachers, the contacts between training college staff and serving teachers at these short refresher courses will be particularly beneficial. Training staff have an opportunity of spotting any deficiencies in the vocational training they give and indirectly of learning of the difficulties their students will have to face in the near future. Steps should also be considered to allow the staff of the various training colleges, during their refresher courses, to have regular contact with schools, apart from those connected with the training colleges, so that they can be more directly in touch with the constantly changing atmosphere in the teaching world.

In conclusion, training needs in the next few decades will call for a body of first-rate teachers constantly abreast of the latest educational research and trends throughout the world, conscious of the objectives which the responsible authorities have assigned to education, and specially prepared for the tasks which lie ahead. This new challenge will perhaps be one of the most difficult which governments will have to meet in the coming years. Indeed, teacher training will not be the only branch of higher education to require a considerable number of high-grade staff. Research on the various relevant strategies might therefore be undertaken immediately so that the new principles of teacher training can be effectively laid down(1). Recent experiments in reorganising training colleges tend to prove that an improvement in efficiency and output is possible straight away.

Increase in available places and new training procedures

Excessive freedom of choice given to candidates for training colleges and over-rigid arrangements for the regional recruiting of student teachers may lead to a situation in which there is a shortage of teachers but incomplete occupation of the room available at training colleges.

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(1) The above remarks relate mainly to the independent colleges which generally train teachers for primary and occasionally for secondary schools, and provide graduates with a training in education. The arguments may also apply to the specialized, or even to the pedagogical, training given in the traditional universities. In view of the need to bring students into contact with research and give them a more effective training, it does not seem that the arrangements at universities in some countries are adequate to handle all the teachers required to staff the primary schools, which have now become compulsory, and the secondary schools which will consequently be rapidly expanding.

Allocation of available places

For example, there was a considerable increase in the number of places at training colleges for secondary school teachers in Sweden in 1965-66 (Table 9), but some of these places were not filled as graduates had applied to several training colleges at the same time. To avoid such a situation, a system should be installed which allows all the available places to be occupied. In this connection, an interesting scheme operates in England and Wales. Although the selection of candidates for training colleges is the responsibility of the colleges themselves, a "Central Register and Clearing House" exists to ensure that applications are not sent simultaneously to several training schools and to see that all the available places are offered to the best candidates. The latter send in their applications to the central register and clearing house stating the training college they prefer, followed by the name of a second college in the event of a refusal by the first and adding a list of four colleges in case their second choice is not accepted. The clearing house is responsible for successively forwarding the applications to the different training colleges concerned. Finally, the places which are still available are offered to those whose choice was not able to be taken into consideration. A roughly similar but more flexible scheme - in view of the number of candidates concerned - exists to place university graduates wishing to undergo a year's teacher training.

Development of day colleges

Independent training colleges are normally residential but a number of day colleges have gradually been created. For example, in England and Wales, where 14 per cent of student teachers are aged 25 or over, there were 14 day training colleges in 1965 out of a total of about 160 colleges. Two others were scheduled for 1967. These colleges are naturally located in big urban centres. In England and Wales the authorities are beginning to develop annexes for older students who live too far from a training college to commute every day. In 1965 there were five such annexes and twelve others were opened in September 1966. Another solution is to admit a number of day students to the residential colleges.

This method was adopted in England and Wales and also in France in training colleges for primary teachers located in big cities.

Improved organisation of courses

Other action can be taken to increase the capacity and efficiency of training centres. For example, in England and Wales, as the result of a request by the Secretary of State in 1965, the training colleges proposed that the number of student teachers should be increased either by reorganising courses to give part of the students theoretical courses in college while the others were having practical training in outside schools or by lengthening the working day or working week. These few examples were intended to show that, apart from new investments which continue to be a fundamental need, a better distribution of available resources is possible. Furthermore, an increase in the number of teachers trained may also be achieved as a result of new permanent or temporary training techniques employed as part of a rational policy for the utilization of existing staff and equipment.

(b) New training methods

In recent years the educational authorities have thought up new training techniques in order to meet the demand for teachers as rapidly as possible. First, a new form of shorter training was offered to students with a secondary school leaving certificate so that a teaching certificate could be obtained more quickly (Table 11) and then part-time and accelerated training was expanded.

Part-time training

Part-time training has already been used to some extent, generally limited to teachers for technical and vocational schools. Courses of this type were developed either to train teachers on a full- or part-time basis or to provide a refresher course (which was really training) for teachers who had not received an adequate initial training. For example, in Yugoslavia the number of students attending part-time courses at university level almost trebled in ten years (1955-56 = 100; 1965-66 = 283). The organisation of initial teacher training courses for primary and general secondary schools apparently requires considerable planning if these are to be effective. Courses of this type are to be tried out experimentally in England and Wales in three area training organisations. In the Netherlands the education authorities have also given their financial support, as from 1950, to the organisation of evening classes to train teachers.

Accelerated training

In some countries the increase in the number of candidates for teacher training and the expansion of these new training procedures were not sufficient to meet requirements. Accelerated training schemes were therefore started on a temporary basis. The certificates candidates received did not always lead to their acceptation as established teachers and they had subsequently to complete their training under conditions which took into account the experience already acquired in teaching.

For example, holders of secondary school certificates wishing to qualify for primary teaching were allowed, in Belgium in 1959, to take a six-week course followed by a year's supervised practical teaching with theoretical courses at weekends. Seventy per cent of these candidates passed the final examination. In Switzerland, accelerated training ranges from six months to one year, according to canton, for candidates who have their full secondary school certificate (maturité) and from two to two-and-a-half years sometimes followed by compulsory refresher courses, for other certificate holders (apprenticeship, commercial certificates). In Turkey holders of the lower secondary school certificate, who after six-weeks of practical training have taught satisfactorily for two years, may be awarded established status. In Canada candidates with a secondary school certificate were allowed to take a six-week summer course in Manitoba in 1958. After two years' teaching they were assumed to have acquired normal qualifications. In the United States the emergency certificate enables candidates to teach for one year in certain states, and generally opportunities for further training are subsequently open to all new teachers: the local inspectorate and universities help them to secure their final training and their service during this period is taken into account when the step in the salary grade is fixed. In Germany (Lower Saxony) accelerated training for auxiliary primary school teachers has taken the form of a year's emergency training reserved for women who hold the secondary school leaving certificate and have experience of infant teaching and child care. The posts offered are therefore temporary.

In conventional secondary schools there have been fewer experiments with accelerated training. Nevertheless, in Greece it is possible to create special temporary departments for accelerated training in universities to train teachers for subjects in which there is a shortage of staff. A third term is then added during the summer months. In Canada (Province of Ontario) university graduates may take a pedagogical course of eight weeks to allow them to teach for a year. If their teaching proves satisfactory a further eight-week practical course is offered and successful candidates are then eligible for the same advantages as students who have taken a regular course of a year.

These experiments are for a limited period. They are designed to cope with difficult situations and have much in common with certain procedures for the allocation and establishment of teachers. These procedures have been organised as part of the policy of temporarily lowering qualification standards and are described in the following chapter. In both cases it is clear that the supervision and support given to teachers who have taken this kind of accelerated training is one of the main factors in the success of an admittedly exceptional policy. In addition, it must be expected that the demand for part-time training will increase in order to attract to the profession people who have left it, or who, although attracted to teaching, have taken up other work.

CHAPTER II

NEW SOURCES FOR THE RECRUITMENT OF TEACHERS

As shown, the regular flow of young certificated teachers into the educational system has not, in itself, been sufficient in many countries to balance teacher supply and demand. The inadequacy of the number of teachers trained or the refusal of some of them to take up teaching first compelled the authorities to call on future graduates. At a later stage many countries attempted to bring back teachers who had left the profession or to retain teachers who were to leave it. Finally an effort was also made to recruit from people who had not previously been in the profession. These measures led to special legislation making it possible to offer this new type of staff an attractive status.

1. More Rapid Use of Certificated and Non-certificated Teachers

When the teacher shortage became very acute the authorities attempted to allocate those who intended to become teachers as rapidly as possible to posts in education. In many countries men obtaining teacher's certificate have to do their military training before entering the profession (and sometimes before starting their training). A preliminary series of measures was adopted to eliminate or postpone military training. In view of the minimum teacher-training students acquired during their course a further measure was passed to lower recruitment standards temporarily and use the future teachers available before the end of their training.

(a) Exemption from or postponement of military training

In countries where military training is compulsory some amendments were made to the regulations. In some cases, teachers were fully exempt, exceptionally, from military service. A measure of this kind was taken in the Netherlands in the '50s when the presence of certain primary teachers was considered absolutely essential.

In other cases, young teachers may be called to the colours for only part of their normal service. For example, in France in 1962 primary school teachers were released before the end of their service. Military service has also been divided into periods to facilitate the employment of young teachers.

During their period of military service some graduates may also be allocated to teaching duties. In Turkey young officers with upper secondary level education may be posted as teachers at rural schools for two years. Table 108 shows that this source of recruitment is not negligible.

TABLE 108

Officers used as primary school teachers in Turkey

	Recruited	Total in service
1960	9,900	9,900
1961	3,000	12,900
1962	5,000	8,000
1963	4,000	9,000

Source: MRP, Country Reports, Turkey.

In Greece, it was possible up to 1969 to allocate graduates doing their teacher training at universities to vacant posts in secondary schools before they were called up for military service. These measures are exceptional, as they are a deviation from the law of the land, but help temporarily to overcome severe teacher shortages. None the less, they have never been adequate. Other procedures have had to be adopted to enable vacant posts to be filled rapidly.

(b) Temporary lowering of recruitment standards

Many national authorities have had to recruit staff who do not fulfil all the conditions required for qualification and appointment. In most cases those concerned were student teachers who had not completed their courses, or graduates in certain subjects who had not yet received their teacher training. Practical procedures for this type of recruitment have, however, varied from one country to another. Some countries have immediately given established status to the young graduates available. Others prefer to test their teaching ability at examinations, the full requirements for which have been relaxed in view of the candidate's teaching service. Finally, some countries which have had to recruit teachers in the course of their training have generally given them temporary appointments with subsequent opportunities for completing their training and acquiring established status.

Award of immediate established status

In view of recruitment difficulties, mainly in the secondary schools, certain countries have immediately given young untrained graduates established status. This type of action has been taken, for example, by several cantons in Switzerland. In view of the inadequacy of training facilities in Sweden up to 1964, graduates without teacher training were appointed to "extra-permanent" posts. In 1961, over 2,000 such posts were thus assigned. Although a minimum of two years' service is required before a teacher can be appointed to a "permanent post" this requirement was also suspended in order to fill vacancies more rapidly. In Iceland, school councils have been allowed to appoint teachers simply on the basis of their qualifications. This policy naturally remains exceptional.

Award of established status after relaxation of examination requirements

Countries which require their teachers to have pedagogical training before granting established status usually arrange for training schemes and reduce the number of tests theoretically required for final appointment.

In the primary sector, certificate holders who have no pedagogical training have had the support of the inspectorate in their work and have had seminars organised for them. In France, a corps of supply-teachers was created who had passed the baccalauréat and were subsequently able to obtain established status under certain conditions. In particular, they had to attend courses in theory and practice organised by training colleges, and teach classes under supervision. Where it was necessary to recruit teachers without the baccalauréat, they were given an opportunity either of working for that examination or for advanced certificate of aptitude which gave them established status only if they were prepared to go and teach in areas suffering from a teacher shortage. A large number of teaching seminars have naturally been organised for these teachers. In Canada, in the province of Manitoba, teachers recruited with the secondary school certificate were required to take correspondence courses and were closely supervised by the inspectors. In Turkey, students with a secondary school certificate who pass the teachers' examination attend seminars during the holidays and are awarded established status after one year's training, like the other teachers.

In secondary schools, teachers appointed before the end of their studies have generally been expected to acquire further theoretical or practical proficiency before receiving established status. In Yugoslavia, in the upper classes of schools providing compulsory education (equivalent to lower secondary schools) holders of secondary school certificates who are under 30 receive training while they are teaching and are incorporated into the profession when they pass the teachers' training examination. In France, as a result of the shortage of science teachers, the Ministry of Education temporarily lowered the requirements for the competitive examination for recruitment. For example, in 1957, the examination for the "Certificat d'aptitude aux professorats des enseignements du second degré" (CAPES) required no written tests, and established status was granted at the end of a year's teaching provided the practical test was satisfactory. In 1958, assistant secondary school teachers and graduates who had taught for three years could be appointed to a post and had only to pass the practical CAPES examination after a year's service in order to receive established status. In 1959, graduates who did not hold the set of certificates required for a teaching degree were recruited to teach mathematics and chemistry and could acquire established status by passing the practical part of the CAPES(1) examination. In 1961, candidates taking the theory papers in science at the CAPES examination were allowed to sit for a subject different from that in which they had graduated. A similar policy of exemption from tests and of relaxation in the requirements for competitive recruiting examinations was adopted for teachers at the collèges d'enseignement général (shorter lower secondary course) and for teachers in technical secondary schools to enable the maximum number of teachers to acquire established status as soon as possible. This policy enabled France, during a period of full employment for highly skilled scientific manpower, to avoid being short of the teachers it required. Other countries, however, although appointing teachers who were not fully qualified, preferred not to make any changes to their requirements for recruitment and established status.

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(1) Certificat d'aptitude au professorat de l'enseignement secondaire.

Permanent appointment after normal examinations for the teaching diploma

Vacancies have also been filled by students who have not completed their specialized courses or their teacher training. But although their service was taken into account (for seniority and training facilities, for example) they were not exempt from obtaining their diploma if they wished to take up permanent appointments.

For example, in Denmark, university students who have passed finals in their main subject only are appointed to classical secondary schools. After 4 to 8 years' service, the young teacher may return to the university in order to terminate his degree. If he has done four years' teaching he receives two years' salary. In the Netherlands, the temporary appointment of students who hold the "candidat exam" is officially permitted. In 1959, out of 1,048 uncertificated teachers, 511 were still attending courses. In Austria, a few secondary school posts have been filled in the same way. In certain provinces of Canada, students who have reached a certain level of training are allowed to teach but have to complete their diploma course. In the United Kingdom, special courses have been arranged for uncertificated teachers in Northern Ireland to allow them to complete their training.

The same policy has been adopted for primary schools, the teachers thus recruited being considered as supply teachers or assistants. In Denmark, students at teacher training colleges have been appointed to vacancies for a limited period (five months). In Norway, supply teachers in primary schools have been able to attend short local courses, after which they may go to a training college. In Portugal, "regentes escolares" may pass an examination for appointment to small schools and subsequently enter teacher training colleges without examination, drawing their salaries during their training period.

Thus, the policy followed has the effect either of modifying recruitment standards for so-called "supply" or "assistant" teachers, or of temporarily lowering the recruitment standards of established staff.

2. Return to Teaching and the Retention of Certificated Teachers

If the training received does not carry a legal obligation to teach, or if a diploma covers sufficient subjects to qualify the holder for work outside teaching, all certificate holders do not necessarily go into the teaching profession. Some may leave the profession during their active life either to take up another profession or, in the case of women, when they marry or have children.

As teaching is increasingly becoming a woman's profession, solutions have had to be sought to retain women teachers or to get them to return. The educational authorities have also tried to recall or retain another group of exceptionally qualified teachers, i.e. those who have retired.

(a) Policy for female teacher recruitment

Married women may leave the teaching profession in the first place because they are prevented by law from continuing their career after marriage. Such legislation has been abolished in countries in which it has been seen to handicap teacher recruitment. Thus, in the Netherlands married women were made eligible for a permanent appointment in 1959, and the percentage of married women among primary school teachers increased immediately. Following a similar measure in Ireland in 1958, 84 per cent of married women teachers in primary schools remained in service after their marriage and others resumed teaching. Some cantons in Switzerland, such as Neûchatel, have amended their legislation and allow women teachers in primary schools to keep their established status. In an initial phase, married women returning to primary teaching are usually offered the same conditions of service as unmarried established staff (salary, insurance).

As in the recruitment of young student teachers, studies have been found necessary to ascertain the factors which keep married women in the teaching profession, or the conditions which encourage them to return to it. A survey carried out by Professor Kellsall in England in 1963 under the title "Women and Teaching" showed that more than half the women who had left teaching would like to go back if they could find part-time jobs and nursery facilities for their young children. Other surveys might be carried out by using the data collected in population censuses. If these censuses include sufficiently detailed questions on the certificates held and on the individual's present and past activities, the number of certificated inactive women can be ascertained. Specification of the qualifications held and earlier professional experience can also be used to determine the type of further training to be offered to women interested in returning to the teaching profession and to those who hold a certificate but have never previously taught.

In addition, regular, detailed statistical surveys based on individualized data would make it possible to record the reasons why teachers leave the profession and these data may be broken down according to sex, age and educational level (for example see Table 34).

Keeping in touch with former teachers

In Germany, schools remain in contact with teachers who prematurely leave the profession. In England and Wales the possibility of establishing local associations of former teachers has been examined, so that the latter may keep in touch with their profession and may be more readily prevailed upon to return whenever they wish.

Recruitment campaigns

The results of surveys and studies therefore facilitate the launching of recruitment campaigns, and may be based on contacts with former teachers, where these exist. The education authorities in some German Länder and some Canadian provinces, in Sweden, and England and Wales, inter alia, have encouraged the return of former women teachers, or taken steps to prevent an unduly large exodus from the profession.

Even before the Kellsall Report was published a national campaign to attract more married women into teaching was launched in 1961. New campaigns of course followed the publication of the conclusion of this Report. Television and radio were also used and the campaigns had the support of the local education authorities. The results were as follows: in 1961, 4,600 married women returned to teaching (full-time or part-time); the number rose to 5,500 in each of the next two years, to 6,400 in 1964 and 7,200 in 1965 (see Table 20).

Some consequences of encouraging married women to remain in or return to the teaching profession

Some of the factors likely to encourage married women to return to the teaching profession also concern any other individual wishing to take up teaching for the first time or return to it; for example, the arranging of part-time jobs, refresher courses, new salary scales, expansion of nursery schools, etc.

Married women will not accept posts far from home, thus causing surpluses or shortages to appear, however flexible the legislation may be.

Another result of the increased proportion of women in teaching must not be overlooked. As the leaving rates in certain age-groups are much higher than for men, staff training services must make provision for a surplus of women teachers so that sufficient numbers will be available for both permanent appointments and the lists of supply or substitute teachers.

(b) Re-employment of retired teachers

Retired teachers are another category of qualified staff on which national authorities may call. In some countries where private education plays an important part, it is not unusual for teachers in retirement from state schools to take a post in private schools. Flexibility in the salary system in private schools (hourly rates for courses) makes it possible to employ specialists in various fields. The policies adopted vary according to country. Generally speaking, either teachers in retirement have been invited to return, or those in the profession who were about to retire have been encouraged to continue teaching.

Retirement age

Very few changes have been made to the legal retirement age. In Italy, secondary school teachers retire at 70, whereas other civil servants retire at 65. In Norway, the retirement age for primary school teachers has been raised from 65 (or after 30 years service) to 70 years old. Other countries have preferred to give teachers the option of retiring at a later age. In Belgium for example, secondary school teachers may retire between 60 and 65. In Scotland, secondary school teachers may retire between 60 and 70, while English and Welsh teachers may do so at 60 although there is no compulsory retirement age. The teacher remaining in service beyond the possible retirement age can therefore continue to earn a higher income than that provided by a pension. However, in Ireland, these extra-years in service may not be taken into account in calculating the amount of the pension, whereas in England and Wales, they are taken partly into consideration - up to a given limit - in calculating the pension.

Pension and salary combined

The main problem for authorities who have decided to recall or keep on teachers of retirement age is to determine whether they are to be paid both the pension and the salary for hours taught. This combination is not allowed under the regulations in some countries, since the salary paid for a full-time job is an incentive in any case, because the amount is always higher than the pension. This policy has been adopted throughout the United Kingdom, although payment of the pension and salary may be authorized if the combined amount is lower than the salary received before retirement. Many countries have adopted this method and fixed a maximum amount for total income, which has immediately entailed an increase in part-time teaching. The arrangements to be made with a view to using the available retired teachers are thus similar to those designed to attract more married women to the profession.

The limit on pension and salary combined varies according to country. In Sweden, no more than 65 per cent of the previous salary can usually be paid in addition to the pension. However, in view of the shortage of science teachers, the latter are entitled to earn up to 90 per cent of their previous salary in addition to the pension. In France, in 1958, teachers over retirement age were entitled to a salary and pension combined of up to 150 per cent of their previous salary to offset shortages of teachers in the sciences (mathematics, physics). In the Netherlands, such teachers may be paid 70 per cent of the maximum salary in addition to the pension.

The limit on the combined remuneration varies according to country; in Germany, it is equivalent to that paid to temporary staff; in Austria, to the starting salary of a contractual teacher; and in Norway, to the basic salary. In Denmark, under previous regulations such teachers were paid as supply teachers if the number of hours taught fell within a given range. The new regulations now in force stipulate, with a view to keeping teachers in the profession after retirement age, that the salary paid should be equal to that received at the time they retire.

Thus, while the advantages offered vary, many countries have had recourse to teachers in retirement or those about to retire. Although such teachers have sometimes accounted for only a marginal percentage of new entrants (see Table 43), they have nevertheless made it possible to avoid leaving some posts unfilled or precluded the assignment of personnel considered to be uncertificated.

3. Recourse to Specialists in other Occupations

The flexibility of recruitment methods in private education and in technical/vocational education has made it possible for some time now to recruit staff employed outside education. This type of recruitment can be of interest to individuals with specific qualifications who are either employed in another occupation or in retirement. They may be offered either part-time or full-time jobs. As for married women returning to the profession after a relatively long absence, pedagogic refresher courses may be necessary. Since the main activities of these specialists may be outside the education system or the regulations concerning combined persons and salaries, it has been necessary to lay down new rules of remuneration which also affect other categories of staff. For example, more opportunities have been provided for the employment of staff on an hourly basis. In Sweden, the salaries of staff recruited on an hourly basis to teach chemistry, physics, mathematics and technical theory are now equal to those of teachers with the same level of training who have had two years teaching experience. In France, full-time and part-time contracts were also offered for mathematics and physics teaching in 1957-58 and 1959-60 and were renewable annually. In 1961, the same arrangement was extended to classical and modern language teachers. In Austria, staff who are not fully certificated are also employed under contract to the education authorities. In such countries as the Netherlands, Sweden and France it has mainly been certain categories of officer (usually in retirement) and engineers who have been called upon.

From the standpoint of developing the cross-relationships between education and the other sectors of society, such personnel have the advantage of being able to contribute their own experience to educational activities with valuable cross-fertilization effects.

4. Some Preliminary Considerations for Implementing Recruitment Policies

The various sources of recruitment mentioned have given rise to legal amendments or to the setting up of new regulations concerning the assignment and remuneration of such staff. Thus, as pointed out in the arguments above, a number of preliminary measures may be applied to all these personnel.

(a) Changes in the age limit for appointments

First, if the age limit for appointment to teaching posts hinders the appointment of teachers with different backgrounds, it may be raised or abolished. Thus, in Greece, following a Decree laid down in 1966, some graduates in mathematics, physics, chemistry and foreign languages may be appointed to a post for a five year period - even if they are over the legal age limit for appointment - provided they have taught for at least three years (including teaching on a temporary basis). These changes are particularly important in the case of married women returning to teaching. For instance, in Canada, when a school board has requested teachers to return, they may resume teaching on exactly the same terms as before.

(b) Taking previous service into account when fixing salaries

To encourage former teachers to return to the profession, and to attract others to enter it for the first time, many countries have in fact drawn up salary scales which take into account previous service either in teaching or in another occupation (for example, the United Kingdom, the United States, Canada, Japan and Denmark). Of course, this advantage may vary according to the different regulations. Thus, in Japan, the past service of teachers is more favourably assessed than that of other public servants. In Denmark, those who transfer to teaching from another occupation have the considerable advantage of having their past service, including part-time work, calculated as from the date their certificates were awarded.

(c) Creation of part-time posts

The principle of part-time teaching had already gained acceptance in technical and vocational training. Part-time teachers have always been highly appreciated, for, through their main occupation, they keep in contact with technological practice and development. In particular, the creation of part-time jobs was one of the conditions for the return of married women to teaching. It is, in fact, the sector which, in view of the way in which schools now function, best lends itself to part-time work. In Iceland, for instance, married women may continue to teach two-thirds of the normal hours for a proportional salary. In Germany, it is possible to return to teaching with a reduced working week. Since 1961, teachers in Lower Saxony with heavy family responsibilities may work half-time with a proportional reduction in salary. This regulation covers women teachers with one child aged eight or over, two children aged 14 or over, or a child in ill-health, and will be applicable up to 1970. In the Land of Bad-Würtemberg, married civil servants have been eligible since 1962, for part-time employment for a maximum of 15 years. In Denmark, women teachers with children under 18 years old may be granted a reduction in working hours, not exceeding half the regular compulsory hours, with a proportional cut in salary.

Whenever recruitment rules are fairly flexible, as in the United Kingdom, local authorities have been encouraged to engage teachers, mainly women, on a part-time basis. First, the central authorities carried out a survey of the policies and practices adopted by local authorities already making use of part-time staff. The results were published, and a circular encouraged an increase in the recruitment of part-time teachers, up to 5 per cent of their teaching force. In Sweden, campaigns were launched on the advantages of part-time teaching for both married women and retired teachers. The expansion of part-time teaching obviously raises problems of adjusting the statute of the teacher concerned. In Sweden, this policy was implemented by systematically increasing employment on an hourly basis, and in 1963

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40 per cent of the 7,000 teachers thus employed were women. In the United Kingdom, the circular addressed to local authorities in England and Wales recommended that the conditions of service offered to such teachers should be brought as closely as possible into line with those for full-time staff.

At the time the English contribution to this report was received, a working party of the Burnham Committee was studying the question of what data should be considered in fixing part-time teachers' pay, and another, set up by the Secretary of State, whether part-time service could be made pensionable. The results of this policy, on the whole, are considered encouraging. It is in fact estimated that four-fifths of part-time teachers are married women, while the total of such teachers has doubled since the recruitment campaigns began five years ago, and in regard to certain specific items many local authorities have offered advantages similar to those enjoyed by full-time teachers. To the social and economic features of the conditions of service should be added those of a professional order.

(d) Refresher courses

In their circular to local authorities, the central authorities in Britain stated that full-time or part-time refresher courses should be considered. In France, persons who have never taught before, but wish to sign a full- or part-time contract, have to take a preparatory training course at the beginning of the school year. In one Canadian province refresher courses must be taken during the summer before returning to teaching. In the United States, re-training courses are sometimes organised for those returning to teaching or entering the profession for the first time. The development of these full- or part-time courses therefore depends to a large extent on the degree of flexibility with which the human and material resources of the various types of training institute are used.

To sum up, prospecting for new sources of teachers varies according to the recruitment crises experienced in the different countries at various times. The elimination or postponement of military service and the temporary lowering of recruitment standards appear to be measures to meet the circumstances, whereas the return of married women teachers or the retention of staff for a period after retirement age can be much more than a "temporary lifesaver" over quite a long period. Allowing for the essential adjustments to the conditions of service, the return of married women to the profession, for example, already appears to be a systematic process in some Member countries and is incorporated in their general policy for the recruitment of teachers.

The annual leaving rate from the teaching profession, particularly in the case of women teachers, may be reduced by some of the above-mentioned measures. In some cases, the leaving rate may be quite high for male staff drawn towards more remunerative or attractive occupations. This is the reason why many countries have had to decide to take into consideration the social and economic aspects of the teacher's status to attract, or retain, more teachers in the profession.

CHAPTER III

TEACHERS - STATUS AND RECRUITMENT

A teaching post is a job in a given economic structure; training, recruitment and career prospects fall within the general context of the utilization of a capital of skilled manpower on a national scale.

Depending on the types of certificates obtained, there are a multitude of possibilities for employment outside education. Generally speaking, far more job opportunities are open to future teachers at secondary than at primary school level. However, employment prospects for primary school teachers may be broadened over the next few years by the development of youth and cultural movements. If education is to be dynamic and effective, the recruits attracted must meet not only quantitative but also qualitative requirements. It has been seen that, confronted with a growing demand for teachers, in almost every case a teacher has been provided for each class. But the new role demanded of teachers in view of the reforms being introduced requires that an adequate proportion of highly qualified graduates accept this difficult job. The decision to become student teachers, to enter the teaching profession definitively and remain in it, will depend on the social and professional status - taken in the widest sense - that is offered to the teacher. The teacher's image (for himself and for others) will result from the interaction of the various aspects of this status throughout his career. This is why the importance must be recognised of the "Statement on the Conditions of Teaching Staff" prepared by ILO and UNESCO, and adopted in 1966 by 75 countries spread over all the geographical and cultural regions of the world and with very varying levels of economic development.

1. The Notion of a Teaching Career for Men and for Women

All other factors being equal, men consider their future career mainly in terms of conventional economic forces (for example, cost of training, salaries according to occupation, etc.), whereas the trend of ideas concerning women's careers is mainly influenced by cultural standards. Society has a certain idea of woman's position in the labour force, her role and the types of occupation most suitable for her. One might say, as things stand at present, that men must work and that women may work, and this situation is reflected in the body of teachers. Women teachers are less ambitious and less concerned with career possibilities(1) than their male colleagues who, because of this, occupy relatively more important positions than women do.

This difference in attitudes may become evident as from the period of training. Let us consider, for example, basic training at two levels, the second enabling teachers to assume greater responsibility or promotion to a higher educational level. In the Netherlands, almost all male student teachers training for the primary level continue beyond the first certificate with a view to acquiring a second qualifying them to become headmasters, whereas only 30 per cent of the women continue after the first certificate. A similar pattern is found in the training which leads to the further certificates required for teaching in secondary modern schools (short course) following primary education. This pattern is, of course, confirmed during the teachers' careers: in England and Wales for example, on 31st March, 1963, the proportion of teachers receiving responsibility allowances (headmasters, assistant headmasters, heads of departments, graded posts), after seven years' service was 50 per cent for men, and 25 per cent for women; for teachers aged 50 and over the respective proportions were 82 and 55 per cent.

In Denmark, in primary and lower secondary schools, only 2.8 per cent of headships and 16.4 per cent of assistant headships are occupied by women.

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(1) The granting of certain posts of responsibility depends on some degree of seniority which women teachers cannot acquire very easily, due to interrupted service (marriage, childbirth).

Even the question of remaining in the profession is presented in different terms. When women teachers marry or have children, and either temporarily or definitively leave the profession, it is a question of social factors outside the context of the education system. A salary rise or a better teacher/student ratio has little influence. Chapter II indicated the principal conditions under which women might remain in or return to teaching. However, the main reasons why most male teachers remain in the profession concern the terms of promotion, salary levels and working conditions.

It is of course advisable to add some nuances to this simple dichotomy. The salary may be a factor in attracting women if equal salaries for men and women is not practised in other occupations. Thus, this type of inequality, which exists in some industrial and commercial sectors in Germany, is not without an indirect and favourable influence on the supply of teachers. Conversely, an explanation of the slow rise in the proportion of women in the Swiss teaching body from 1950 to 1960 cannot fail to consider the inequality in the salaries of men and women teachers in some cantons, apart from such particular reasons as the isolation of some rural schools and the low percentage of girls taking secondary school courses leading to higher education(1).

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(1) On 1st October, 1965, women teachers in primary education were receiving a salary equal to that of men in some eight cantons only. So far as the salary of unmarried women primary-school teachers (without allowances) are concerned, five cantons out of about 13 maintain the initial difference between men's and women's salaries throughout the whole career, and in the other eight cantons the gap increases.

In the 13 cases of differences in salaries considered, the starting salary of women was less than 85 per cent of the men's in one case, 86 to 90 per cent in two, 91 to 95 per cent in eight and over 95 per cent in two.

In six instances of unequal salaries in higher secondary education, the women's salaries were 85 per cent of the men's in one case, between 86 and 90 per cent in two, and between 91 and 95 per cent in three.

In one case the absolute difference remained the same between the minimum and maximum salary; in one it diminished, and in the other four it increased.

Working conditions may also be factor in keeping women in the teaching profession. Due allowance being made, a teacher who has her own children will scarcely be encouraged to remain in a school with very large classes and a great deal of work after school on preparation and correction. This simple example tends to prove that an occupation's power of attraction is also related to its organisation and effectiveness. In this connection, no matter what motives are advanced by either sex to justify their entering the teaching profession, several factors concerning recruitment may be studied together.

Before discussing certain specific aspects of the teacher's social and economic status, it is advisable to consider the influence which the image held by society of the teacher may have on recruitment.

2. The Image held of the Teacher and Recruitment

At the time when the primary teacher was the only "lettered" person in the village, and the small number of secondary teachers were busy training the future "élite" of the nation, the prestige of teaching was at its height. This prestige was mainly "intellectual" since, economically speaking, the teacher's status might be far from flourishing (e.g. salaries). As society evolved, teachers ceased to be the sole custodians of knowledge. By providing a basic education to an ever-increasing number of pupils, they have indirectly helped to reduce their own role as indispensable individuals in the adult community. Adults and young pupils themselves are more and more influenced by mass communication media. This "parallel school"(1) increasingly tends to challenge the monopoly of education to which the school and its agent, the teacher, aspired. Owing to inadequate preparation, the teacher himself is initially inclined to refuse to incorporate these new techniques - carrying images and ideas - into his system of teaching.

Helped by the industrial expansion experienced by society other occupations have been developed and their social prestige has risen steadily.

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(1) Georges Friedman, "L'école parallèle", Journal Le Monde, 7th, 8th, 11th and 12th January, 1966.

(a) Development of other occupation

Highly skilled workers, technicians, engineers, research workers, etc., have acquired a place and become as important as, or sometimes even more important than, the various categories of teacher. In some countries teachers have themselves felt that their social status has been falling, for, as is usual when one social group rises, that immediately above has the impression of going down in the social scale.

This situation has of course entailes a comparison of some aspects of the teacher's status with those of the new occupational groups which many consider to be at the root of the rapid expansion in industrial societies. More stress has been laid on the "professional" aspect of the status (relationship to the training received, dynamic attitude at work, and the overall effectiveness of the institution) and on its social and economic aspects (career prospects and level of income allied to the "professional" nature of the status).

Social and economic aspects

The new occupations, some of which required more or less the same qualifications as those of the various teacher categories, sometimes offered salaries equal to or higher than those of teachers. However, owing to the lack of any exhaustive, detailed or impartial surveys, it is in fact virtually impossible to verify assumptions of a relative rise or fall in teachers' salaries(1).

In addition, the relative facility and in some cases rapidity of promotion were undeniable advantages of the new, expanding occupations. Until recently, however, the possibilities of promotion at a given level in the teaching profession were slight, except those offered to the small number of candidates for administrative duties.

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(1) In a paper entitled: Teaching in a Modern Society, J. Vaizey concluded that, in comparison with other groups, teachers (in England) had improved their standing in both relative and absolute terms over the past 40 years. Published by "The College of Preceptors", 2 & 3 Bloomsbury Square, London W.C.1.

Furthermore, the period of service required to reach the top of the scale sometimes appeared very long to young people who might have been attracted by a career in teaching. Thus, as previously pointed out, the increase in the proportion of women on the teaching staff risks making this state of affairs more pronounced, since the woman teacher's notion of a career differs from that of the man's.

Finally, in many countries the number of pupils has increased substantially over recent years and the working conditions of teachers have become more difficult. They are required to do more both inside and outside school. School buildings have sometimes proved insufficient or unsuitable, and it has often been necessary to increase the number of pupils per class. It has not always been possible to provide special education for those children who need it, thus increasing the teacher's task, although the importance of these factors has varied, of course, according to country, region or type of education. Their effect has not however been less felt, whether by teachers or public opinion to the detriment of the profession's image.

While it may be difficult to determine in absolute value, whether the teacher is less well-paid than before for the tasks performed, it is nevertheless possible to discern how the trend in the "professional" aspect of his status has been indirectly able to affect his image in society.

Professional aspects:

- Length and content of training

In some countries the training period for a primary-school teacher is shorter than that of a skilled or even of an ordinary technician. Even full professional training for primary teachers however, is likely to be superficial if the course is too short. Many countries have long held the view that the lower the educational level the smaller the need to extend the training period, whereas, in fact, numerous studies have shown that the period of a child's pre-primary and primary education is decisive for his development. In some cases the delay in deciding to lengthen the period of primary teacher training - often due to the growing pressure of demand for teachers or to budgetary priorities - has meant that some students who failed in their advanced courses decided to become primary teachers as a last resort.

- Departure of the best primary teachers

In countries where wide differences exist between the status of the various teacher categories, the best primary teachers have been tempted to go into secondary education, particularly at the lower level, during the recent recruitment crises. As this promotion was not always organised rationally, i.e. by providing the additional training corresponding to education's new aims, these experiments have sometimes entailed a lowering in the standards officially required at both the level the teacher leaves and at that he enters, which has had a very unfortunate effect on the various categories of education and on public opinion.

- Attitudes of secondary teachers

The second teacher usually takes a specialized and sometimes very long course that is not always completed by sound training in teaching methods. This may sometimes explain his reticence towards teaching or administrative innovations introduced into the educational system (see Part Three of this Report). Some teachers, when faced with an increase in the number of pupils in secondary education, continue to view the problems raised at this level in traditional terms of "selection". This failure on the part of some secondary teachers to understand the behaviour of a growing number of their pupils may go against the effort to democratize access to the higher educational levels. During the worst moments of the recruitment crisis this attitude was emphasized by recourse to other parallel forms of recruitment and sometimes entailed lowering the legally required standards.

(b) Status and social prestige

This situation has been able to persist moreover, because some specialists still consider that training in teaching methods becomes less essential as the level taught rises. This would mean, for example, that an engineer cannot be easily replaced, but that a teacher can be in his specialization without his successor having to undergo any solid vocational training.

This lack of "professionalism" in education may be a serious handicap in recruiting teachers or keeping them in the profession at a time when the most highly developed countries have an increasing need for engineers, scientists, etc. For reasons which are not entirely economic, the best elements are likely to turn towards industry, research, the faculties, etc. It has been claimed, moreover, that if the teacher can thus be easily replaced it would prove that he had not, in fact, any real status.

However, if the teaching profession has lost prestige because many people consider that the teacher's job is routine and impervious to new methods and organisational techniques, it is advisable to determine where the responsibility lies. Teachers are in fact, no more than the product of the system which trains and uses them. In view of the basic part they play, however, public opinion tends to hold them responsible for the teaching structure's failure to adapt itself either to present-day conditions or to society's real needs.

However, teachers' working conditions tend to deteriorate even further when the traditional structures cannot be made to work and no longer meet existing needs. The dull image of classroom work also handicaps the recruitment of high quality personnel, although new techniques have been perfected which can free teachers from the less important tasks, lighten their work, improve their efficiency and allow them to judge the results. On the premise that a person's enthusiasm and attitude towards his job are commensurate with the personal satisfaction he derives from it, steps should be taken alongside those concerned in financially improving the teachers' status, to modify the content and quality of teacher training. Developments in this field are discussed in Part three of this report.

Few scientific studies have been made up to now to determine trends in the teacher's social prestige(1). In countries where differences between categories of teacher are very marked, these differences should be taken into consideration.

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(1) "La représentation de la condition du maître dans la société - L'image du maître", *Enfance*, No. 2-3,
Laboratoire de Psycho-biologie de l'enfant, 1966,
Surveys led by the French Commission for UNESCO.

Wherever the primary teacher's status has hardly changed or where the gap still remains between him and the secondary school teacher, there has been a more or less marked lack of interest in the profession. Although primary teachers seem to maintain their prestige in rural areas, particularly in the Mediterranean countries, even here, as in the rural areas of Turkey or Portugal, for example, their low salaries affect their social prestige and are a handicap in recruiting teachers and keeping them in the profession. In some countries a similar situation is also jeopardizing the teaching profession at secondary level. Thus, in a sample survey conducted in Turkey in 1961 among pupils in boys institutes and general and commercial secondary schools, a teaching career was not among the first three choices; these fell, in fact, on the professions and business careers(1). Even though, as has been noted, (in the United States, for example) boys generally opt later than girls for a teaching career (after secondary education) the few indications collected in some Member countries suggest that the recruitment of highly qualified personnel into teaching may prove increasingly difficult unless their status is improved, particularly in its social and economic aspects.

3. Salaries Policy

Salary is not the sole factor which influences the choice of a job, although, as new occupations have provided openings for highly skilled manpower, the teacher's salary has assumed increasing importance among the factors taken into consideration during recruitment. This trend has been reinforced by the compensatory role that, unfortunately, the salary has sometimes played in view of the deterioration of working conditions or the lack of dynamism in school organisation.

The main advantage of a salary policy is that it can be manipulated with precision, and is also an incentive than can be put into operation rapidly. To cope with growing competition from other occupations, the authorities responsible have, of course, worked out salary policies that will attract as many certificated teachers as possible and retain those who might be tempted to leave for more remunerative occupations.

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(1) MRP, Country Reports: Turkey, OECD.

However, an effective adjustment of salaries to the labour market has been delayed by a number of curbing factors; these originate either in the fact that teachers are governed by the recruitment and salary regulations of the civil service or by the existence of a salary scale that does not differentiate between specializations. Thus, some national authorities have found it advisable to concentrate not only on the level of salaries, but also on their structure.

The scarcity of the skills available has indirectly entailed research into the best possible utilization of the available stock and into salary incentives to increase the effectiveness of education. However, the difficulty of accurate measurement in this field will limit for some time the taking into consideration of these still uncertain bases of calculation.

(a) Salary levels and recruitment

It is hardly necessary to stress the influence that salary levels have on recruitment. The various OECD reports(1) have adopted the basic assumption that the average salary of teachers will not rise more slowly than the gross national product per capita. Notwithstanding the difficulty in determining this average salary - as a result of the various elements comprising the teacher's income - a study should be undertaken to ascertain whether this recommendation has been effectively carried out in Member countries.

A first analysis shows that, where salaries were appreciably increased, teachers have been easier to recruit. A few examples may be given. In Spain, the increase in primary teachers' salaries in recent years is considered to be one of the determining factors in the change in the breakdown of student teachers by sex entering primary teacher training colleges. Women accounted for 73 per cent of the total of future teachers in 1950-51, but no more than 49 per cent in 1965-66. The same pattern was observed in Portugal after the 1959 salary adjustment: 86 per cent of the entrants in 1955 were women and 77 per cent in 1960.

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(1) For example, in the six reports of the Mediterranean Regional Project or in Messrs. Svennilson, Edding and Elvin's Study on "Educational Objectives in Europe for 1970", in Policies for Economic Growth and Investment in Education, OECD, January, 1966.

When some categories of teachers are better paid than others, the difference is reflected in the greater difficulty in recruiting the less-favoured category. Thus, in Austria, the fact that the teacher shortage in technical education is less serious than in general education is certainly due to the proportionately higher salaries paid to technical teachers. The incomes of teachers in general education seem to have increased from 10 to 20 per cent less than average incomes. In Germany, the persistent shortage of teachers in gymnasia and in special subjects at elementary school level (needlework, music, sports, etc.), may also be explained by the different growth rates in salaries according to category of teacher. In fact, teachers' incomes would have had to rise by about 45 per cent between 1961 and 1966 to keep pace with economic growth. Assuming that starting salaries in 1961 = 100, the index in 1966 had reached only 129 for gymnasium teachers and 124 for teachers of special subjects in elementary schools. It ranges between 150 and 153 for teachers in compulsory primary, special and middle-level schools.

In the United States, the influence of the salary offered was measured by the percentage of teachers taking subjects other than those in which they had received training. Surveys(1) have shown that, whether for the large cities, the various large regions or for schools of different sizes, a difference of one or two thousand dollars had considerable influence on the quality of the teachers recruited. Although the salary level is not the sole factor to be considered in recruitment, the more numerous the possibilities of employment outside education, the more it appears essential to avoid too great a gulf between salaries in teaching and those in other occupations.

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(1) See J.A. Kershaw and R.N. McKean: Teacher Shortages and Salary Schedules (Tables 22 and 23), The Rand Corporation Memorandum: RM 3,009 - FF, February, 1962.

(b) The difficulties of making comparisons with other occupations

In some countries, particularly those taking part in the Mediterranean Regional Project, the hypothesis that the increase in salaries should keep pace with that in gross national product per capita was apparently not sufficient to attract teachers to, or to remain in, the profession. It had in fact been considered desirable to increase teachers' salaries more rapidly to make up the leeway in relation to other occupations. However, only very approximate comparisons can be made between teachers' incomes and other types of income in either the public or private sectors, owing to the different elements comprising the teachers' total income and various other advantages relevant to their status. Aside from the basic salary, there are different allowances which may vary according to the category of teacher, the subject taught, the type, size and location of the school, the specific responsibilities within the school and classroom, etc.

The amount of these different allowances also varies considerably according to country. In the Netherlands it is about 6.5 per cent of the salary; in England and Wales about 15 per cent of the total salary bill is in respect of differential payments; in Greece, the allowances often total more than the basic salary: between 49 and 54 per cent of the total salary of primary teachers, and 40 to 50 per cent of that of secondary teachers. The comparison becomes even more complicated under regulations which authorize overtime with or without a maximum number of hours. Overtime may sometimes be paid for at a progressive rate. When it is not paid for by the authorities responsible for paying the teacher's salary, but by the user of his services, data are much more difficult to come by. A teacher may work overtime not only in the school to which he is appointed but in other public or private establishments or in extra-mural education (for example, adult education). He may also increase his income by giving individual private lessons to his pupils. In some countries, indirect advantages may be obtained through reductions in the cost of certain services; housing, transport, children's education, etc. Other advantages, no matter how specific, are difficult to evaluate, but it would be advisable to take them into consideration, e.g. the number of days holiday, the possibility of obtaining paid or partly paid leave for study purposes, and even the possibility of promotion through such studies. Thus, in England, Wales and Sweden, for example, emphasis has been explicitly laid on the fact that at the present stage of research it is virtually impossible to compare teachers' salaries with those for other specialized occupations, particularly in the civil service. However, some calculations have been attempted in countries where inequalities between salaries appeared to be too obvious. In the countries providing this information(1) (Netherlands, Austria, Spain, Italy, Japan, Luxembourg, Greece, Yugoslavia), the salaries of secondary teachers - except in Greece and Yugoslavia - appear to be comparable or slightly higher than those paid to civil servants with equivalent qualifications. However, these salaries may develop differently, and the advantages a teacher may have at the beginning of his career steadily disappear as a result of the possibilities of more rapid promotion in some civil service jobs. This situation has been noted in Austria and, to a less extent, in the Netherlands.

Although such comparisons are even more problematical, in view of recruitment difficulties, an attempt was made to study the differences which exist between the teaching profession and the private or semi-public sectors employing technicians or specialists whose training might be compared with that of teachers. In Spain, it was noted that the ratio between the salary of an established secondary teacher and the gross domestic product per worker in industry or the service sector, was 2.7 in 1961(2). This ratio was clearly less advantageous than that for other occupations with equivalent standing. A primary school teacher's salary was approximately equal to that of the average worker in industry or the services. Generally speaking, a semi-skilled worker in industry earned some 50 per cent more than a primary teacher, and 60 per cent of a general secondary teacher's salary. Notwithstanding the difficulties in making such calculations or in taking into account any advantages attached to teaching, these differences were seen as the main cause of recruitment problems, and large salary increases have been awarded over the past few years.

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(1) Apart from data provided in national monographs, use has been made of the replies sent to the International Bureau of Education concerning the Shortage of Secondary School Teachers, (Publication No. 301, Geneva, 1967) and the Shortage of Primary Teachers, (Publication No. 255, Geneva, 1963).

(2) MRP, Country Reports: Spain, OECD, Paris, 1965.

Despite slight improvements recently, teachers' salaries in Yugoslavia are still lower than those of specialists with similar qualifications, and the immediate aim is to eliminate this difference as soon as possible. Other countries (France, Greece, the Netherlands, the United States) are unable to offer salaries to teachers - particularly starting salaries - equivalent to those in some private industries. However, it is advisable to distinguish between the categories of teacher. When other job opportunities are relatively limited because of the more general training required for primary teaching, there is little difference between the salaries offered. Conversely, there are very large differences, especially as compared with industry or research, for scientists (mathematicians, physicists, chemists, biologists, etc.). This situation tends to become general, as shown by the increasing difficulty in recruiting specialized teachers. It raises the problem of adjusting salary policies to developments on the labour market. It would at present be dangerous, however, to draw immediate general conclusions from comparisons that cannot easily be made in view of the state of the quantitative data currently available. In order to avoid any differences of opinion, the necessary investigations in this connection could be assigned to research institutes guaranteeing a fully objective approach.

Notwithstanding the limitations outlined above, mention may be made of some points which might be an obstacle to an improvement in the salary situation.

(c) Inflexibility of salary regulations

The financial regulations which have governed teachers' salaries for the past 15 years appear to have been too rigid for teachers as a whole, and still are for some categories, thus making it practically impossible to adapt them to the changes which occur on the skills market.

Integration with the civil service

In countries where the teaching profession is integrated with the civil service, it has not been possible to make full use of the incentives provided by flexibility in fixing salaries. With an administrative status assimilating them to other civil servants, teachers have benefited from the same advantages (for example, stability of employment). However, they are also classified under the salary scales applicable to the civil service as a whole and have similar recruitment conditions. These conditions had entailed the adoption of recruitment standards for teachers (competitive examinations) which sometimes had little relationship with what was expected of them in the teaching profession. Neither has it always been possible to increase teachers' salaries in relation to the actual recruitment problems since, as they were part of the civil service, the responsible authorities would also have been obliged to raise the salaries of other categories of civil servants. However, we might ask whether balanced national development does not call for a wage policy which is sufficiently flexible to prevent for example a general wage increase, made necessary by shortages in a specific category of staff from turning future job seekers towards jobs for which demand is already met.

A similar problem arises in connection with the expansion of part-time teaching. Thus, in Germany, in those Länder which have decided to apply a special policy in this field, it was the general regulations affecting all civil servants which had to be drawn up. Without necessarily advocating a general separation from the civil service, the States in which integration tends to continue might advisably examine the possibility of machinery allowing teachers to be offered a different administrative status and an autonomous salary system which would permit them to be better armed to meet temporary, or even structural, recruitment difficulties. At international level, it would be valuable if surveys could throw some light on the effects of the different types of wage legislation - from the most rigid to the most flexible - on the recruitment of teachers.

Single salary scales

Another handicap in the adjustment of wage policies to change in the demand for skills is the existence of single salary scales for all teachers irrespective of their specialization. Generally speaking, a teacher's position on the salary scale depends on the educational level attained and the length of service; the extent to which teachers are put into categories varies according to country, as does the proportion of salary due to the person's efficiency in carrying out his professional duties. Unlike the wage structure in other occupations, however, this structure does not always permit adjustments when shortages of qualified teachers prove to be both persistent and substantial. As pointed out in the first part of this report, it is becoming increasingly difficult to recruit certain types of teachers (usually in scientific and technical subjects). The inflexibility of some regulations, makes it necessary either to postpone a wage increase which ought also to apply to categories of teachers not affected by the persistent shortage, or to grant it to all, which might possibly finish up by having the opposite effect to that sought. The main argument advanced in favour of a single salary scale is that it maintains a good spirit among the teaching staff and so contributes to classroom efficiency. However, following a survey carried out in the United States about ten years ago, it was concluded that teacher morale depends on a great many variables and that salary schemes (depending for example, on individual results) were not in themselves sufficient to determine any marked change in staff morale(1). Moreover, single salary scales may also have negative effects on teacher morale; they may create dissatisfaction among enthusiastic and efficient teachers who have no possibility of greater financial reward than their more pedestrian colleagues.

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(1) B.J. Chandler and Cl. Mathis: "The Effect of School Salary Policies on Teacher Morale", July 1967 (mimeographed) quoted in Teacher Shortages and Salary Schedules by J.A. Kershaw and R. McKean. The Rand Corporation - Memorandum RM 3,009 F.F., February, 1962.

The situation which might be created by a continuous deterioration in the number of qualified teachers in specializations seemingly fundamental to future social development and affecting the whole teaching profession, might possibly have more serious long-term consequences. It might affect the morale of teachers and the standing society finds fit to allot them. Some countries have therefore either revised their salary regulations or attempted to amend them indirectly to improve the possibility of recruiting certificated teachers.

(d) Increased flexibility in salary regulations

For a long time the system of a special post allowance has been practised as an incentive to teachers to accept posts in isolated areas. In all countries a special allowance is paid to teachers in these areas, in addition to the normal salary. This allowance is usually accompanied by other measures such as the repayment of removal expenses or a far more advantageous assessment of the service in isolated areas than elsewhere. This incentive of course applies to all teachers, whether or not their salary scale is closely linked with that in the civil service. Some countries have gone much further.

Choice between two types of statutes

In some cases teachers have been offered the possibility of choosing between the normal statute and one on a contractual basis carrying a higher salary.

In Sweden, for example, hourly salaries have proved advantageous to part-time teachers, although the only other teachers who would find it worthwhile to choose this type of statute are those who are not fully certificated (probationary training, practical training in pedagogics, etc.). In Denmark, on the other hand, all "gymnasia" teachers have the possibility of opting for a contract carrying a higher salary than they would receive with a permanent appointment under the civil service regulations. They lose, in this case, advantages reserved for civil servants(1). However, of those who could opt between the two statutes in 1966, about 90 per cent of those under 40 preferred a contract. The number of appointments under contract will certainly increase still further in the coming years, since a teacher under contract with five years service can earn more than an "adjunct" teacher (the teacher's title in the civil service during the first 15 years). These regulations, which were drawn up in 1960 following an agreement between the Union of Gymnasia, teachers, and the Ministries of Finance and Education, had already been applied previously in other sections of the civil service in accordance with an arrangement between the various associations of senior officials and the authorities concerned. The choice left to young graduate teachers serves to attract them towards the profession and also fosters mobility of employment. In 1966-67, teachers under contract represented 46 per cent of all university-graduate gymnasia teachers employed on a full-time permanent basis. This example shows that it is possible to introduce greater flexibility into teachers' salary regulations when there is a shortage of highly qualified graduates.

Wage policy and the recruitment of certain specialized teachers

Since some types of specialized teachers are more difficult to recruit than others, it appeared necessary to adjust existing regulations to ensure the recruitment of qualified teachers, particularly for science subjects. The expansion of part-time teaching on the basis of a particularly advantageous hourly rate can cover only a limited percentage of hours. Thus, one immediate solution is to increase the income of certain full-time specialized teachers - while maintaining a stable basic salary - by means of overtime at progressive rates.

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(1) Thus, the period of notice for termination of employment is quite short, whereas civil servants may receive compensation for five years if they have not found equivalent employment. Pension terms are also less advantageous which explains why older teachers prefer the civil service statute.

Indirect salary increases for teachers of certain subjects

Overtime can be used to offset shortages of specialized teachers, either because teachers of some subjects are called upon to work more overtime than the others - and at progressive rates - or because the overtime rate for special subjects is higher than that for the others. There is thus some degree of differentiation in the supplementary pay received by specialized teachers.

In Greece, since 1964 only teachers of physics, mathematics, geography and foreign languages have been paid at a higher rate for overtime than for their official hours. However, as a maximum number of overtime hours has been fixed in Greece, as in a number of other countries, this policy is limited and does not call for the establishment of special machinery.

In Denmark, where no maximum has been set for overtime, the salaries policy is closely linked to possibilities of working many additional hours, particularly in the gymnasia. In 1961, the Danish Ministry of Education had already established an overtime commitment allowance if the majority of the university graduate teachers were ready to work five hours overtime per week. Furthermore, overtime hours are paid at a progressive rate: assuming the first five hours per week = 100, the indices for the sixth to eighth hours = 105, ninth to tenth = 110, eleventh to twelfth = 120, thirteenth to fourteenth = 130 and fifteen hours and over = 140. With a view to attracting more teachers and getting them to accept overtime, reductions in compulsory service were granted to teachers of all subjects in the last year of the gymnasium(1) and of examination subjects at the end of the second year(1). In addition, the time devoted to correcting papers is counted as part of working hours. Generally speaking, this policy has made it possible to rely on the mass of certificated teachers to meet the growing demand for teaching hours rather than to call on uncertificated personnel, at the cost, however, of a fairly heavy weekly load (see Table 109). As teachers of science subjects are able to count as compulsory service more hours spent in correcting papers, their incomes have been correspondingly higher. In addition, higher conversion co-efficients have been attributed to science lessons. Since 1958, four physics lessons have been counted as five for salary purposes. In 1961, in addition to the above-mentioned general reductions in compulsory service, others were made for mathematics, natural sciences and biology. Table 109 shows that, owing to the time allowed for marking papers and for teaching hours at a higher co-efficient (conversion hours), science and mathematics teachers have the most overtime hours.

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(1) And for similar evening classes.

TABLE 109

Average weekly hours for certain subjects (1966/67) in Danish gymnasia

Major subjects of specialization	Classroom (timetable) hours	Marking papers	Conversion hours	Total	(Total-24) = overtime hours
Danish	23	7	1	32	8
English	24	7	1	32	8
German	23	8	1	32	8
French	25	2	1	28	4
History	26	2	1	28	4
Geography	23	4	2	29	5
Physics	24	9	4	37	13
Chemistry	25	8	4	37	13
Mathematics	24	9	2	34	10
Music Singing	27	2	1	30	6

As the salary scales are fixed, the use of these various methods makes it possible to pay some teachers at a higher rate than these scales. Teachers of science subjects will benefit from these methods. It is not the teachers with the most classroom hours who are attributed the largest amount of overtime, but those who have the most marking of papers to do and who are granted a higher co-efficient for lessons. As they stand, the regulations consider that it is mainly science teachers who should receive higher incomes. These regulations, which have been worked out by the Danish authorities, are particularly interesting insofar as they retain the principle of a single salary scale while in fact establishing a hierarchy as between specialisations.

Direct salary increases for certain teachers

Under the legislation covering grants to secondary schools in Ireland, a special grant for teaching science was introduced in 1964-65. The grant was available to schools employing science graduates to enable these schools to offer them higher salaries. Some experts(1) have advocated a similar policy for the United States. Believing that very highly qualified science teachers could no longer be recruited if salaries were based on length of service and level of education attained, these experts proposed that the salary scale offered should also take into consideration the main or even the secondary subject qualifications. To sum up, the above-mentioned examples seem to indicate that when shortages continue to exist, the regulations must be flexible enough to be adapted to the new conditions on the labour market.

(e) Structure of salary scales and recruitment

If educational systems are to maintain a dynamic approach to the recruitment of young graduates of high quality, opportunities for rapid advancement within the salary scale must be provided to make accelerated promotion possible. On the one hand, the young teacher has to meet specific expenses early in his career (marriage, children, housing, etc.) and, on the other, education must be able to compete with other sectors seeking to attract young graduates by high salaries.

In some cases, the conditions governing final establishment in a permanent post also add to these difficulties, either because of the type of probationary period or because of the delay between the award of a qualified teacher's certificate and such establishment. National competitive examinations to recruit teachers in Italy for example, may cause further delay unless the conditions for these examinations and the aptitude tests taken after graduation are rigorously co-ordinated. Four to eight years may sometimes elapse between graduation and establishment in a post. The teacher's career really begins only when he becomes established; moreover, a permanent appointment often entails changing his residence when he is approaching middle age.

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(1) J.A. Kershaw and R.N. McKean, Teacher Shortages and Salary Schedules, The Rand Corporation, Memorandum RM 3,009, February, 1962.

The inclusion of aptitude tests in a new type of vocational training, and the speeding-up of competitive examination procedures, should improve the present situation.

The length of the probationary period presents a more complex problem. It is usually fixed officially and places the teacher lower in the salary scale than his established colleague. However, as in Sweden, the teacher may move up the scale during his probationary period, and usually advances two steps during a three-year period.

The probationary period may be reduced if it appears to be too long; thus, for general secondary teachers in Italy, it was cut from three to two years in 1958. In Portugal, it has been proposed that the existing five-year period of provisional appointment for primary teachers should be eliminated or, at any rate shortened. The importance of the probationary period can be examined only within the wider framework of the teacher's theoretical and practical training. The differences noted between one country and another may be explained by the fact that in some, through those governing competitive examinations and appointment, teachers are subject to the more general civil service regulations. Comparative studies on the significance and characteristics of probationary periods should therefore be made in teaching and in other occupations.

TABLE 110

Examples of the length of probationary periods

	Primary	Secondary	
		General	Technical
Belgium	3 years		
Denmark	2 years		
Greece	2 years		
Italy		2 years	
Ireland	2 years	1 year	2 years
Luxembourg	none	6 months	none
Portugal	5 years		
United Kingdom (England and Wales)	1 year	1 year	variable
Sweden	2-3 years	2-3 years	

Comparative surveys might also throw more light on any relationship which might exist between the time required to reach the top of the salary scale and recruitment possibilities. In fact, this time varies considerably according to the country and may double from one to the other. Thus, in England and Wales the maximum salary is reached after 15 years; in France, this period, for teaching staff as a whole, may vary between 18 and 30 years; in Portugal, all teachers reach the third step (the top) in their service after 20 years (the transition from first to second, and from second to third, occurs every ten years); in Austria, general secondary teachers must serve 34 years before reaching the top of the salary scale, i.e. more or less at retirement age.

Thus, in order to improve the career prospects offered to teachers, some countries have in recent years attempted to adjust their regulations, within the framework of existing scales, to improve teachers' incomes. In primary education in France this has entailed a tendency to speed-up promotion by means of a new method of selective promotion by steps to avoid teachers staying at the same level early in their careers. This method is, of course, coupled with a systematic increase in the indices at the beginning. In constant francs, the starting salaries of primary teachers increased by 59.6 per cent from 1956 to 1963, compared with an increase of 55.2 per cent for salaries at retirement age; for graduate teachers the increases were 60.1 per cent and 58.8 per cent respectively.

Current policies are therefore tending to reduce the difference between starting and maximum salaries, and it is intended to continue this policy where the difference is still large. This is true in Austria, for example, where the end-of-career salary was two-and-a-half times the starting salary in 1962, compared with three-and-a-half times in 1957.

Lack of data and research in this connection makes it impossible to reply to the more general question of the influence of the structure of salary scales on teachers' careers. The need to offer teachers a far more competitive salary than before in relation to other occupations therefore calls not only for a revision of the general level of salaries, but also for the setting up of new measures entailing more rapid increases in salary during the early part of the teacher's career.

(f) The teacher's income and the effectiveness of his teaching

It is difficult to evade another problem of economic significance: the fixing of teachers' salaries. However, as will be seen in the Chapter IV, the special nature of the teacher's work has made it extremely difficult to draw up objective criteria for basing the whole or part of his real salary on his own "productivity". Nevertheless, since the teacher's dynamic qualities are a basic condition if an education system is to be efficient, some school authorities would like to reward the better teachers. Thus, the structural reforms considered desirable in Portugal include the proposal "to set up a system of progressive salary increases based partly on length of service and partly on skills acquired". In Switzerland, the commission which made a detailed examination of the recruitment of general secondary teachers suggested that salaries "might be adjusted to work performance".

Thus, in our view, the factors indirectly establishing a link between the amount of salary and work performance are promotion possibilities through the creation of new supervisory posts, an improvement in working conditions, the possibility of making changes to the initial teaching duties, and the systematic development of regular teacher training refresher courses. However, the salary still largely depends on (i) the initial certificate, although the usefulness of the subjects taken and the quality of the training institute are not always ascertained; and (ii) seniority, although the experience gained during the years of service is not evaluated qualitatively. When the education system and teacher recruitment are decentralized, institutionalized or voluntary collaboration is established among training colleges in order to guarantee the qualitative level of the certificates awarded. In countries with a centralized educational system, national competitive examinations for recruitment purposes are supposed to eliminate any differences in the standard of training institutes but, so far as secondary education is concerned, these competitive examinations lay far more stress on specialized knowledge than on teaching techniques.

The inspector's assessment of a teacher does not appear to have noticeable effect on the fixing of part of his salary. On the other hand, inspection reports are decisive in evaluating the abilities of a teacher seeking promotion to a supervisory post. Research might be undertaken in this field with a view to international comparisons. For example, Yugoslavia's experiment might be examined very closely. A new system of individual payment-by-results is at present being developed for teachers, and two methods are being used: the first takes into consideration the tasks accomplished by the teacher and the degree of success achieved; the second is based on both the quantity and quality of collective and individual work. The funds received by the school are distributed in salary form on the basis of the school work accomplished and the results obtained; it is the teachers' council which is called upon to evaluate achievements after hearing the report of a special committee. Generally speaking, the factors taken into consideration are each teacher's initiative (promotion of new techniques and methods; co-operation with other teachers, with bodies outside the school and with the pupil's parents; the attention paid to the achievements and progress of pupils), the preparation of his work and the results achieved by his pupils. These results are assessed by means of oral examinations, tests, interviews, competitive examinations, the results his pupils obtain in the top classes, their ability to apply their knowledge in practice, etc. Thus, by basing all or part of the teacher's salary on the quality of the education he dispenses, the Yugoslav school authorities have considered it possible to use a financial incentive to improve methods and make education more efficient. The initial results are considered encouraging, although the experiment remains an isolated case.

4. Opportunities for Promotion

The strength of the teaching profession's attraction also depends on possibilities for improving salaries independently of promotion on the basis of seniority. Education has always offered a variety of possibilities, in addition to teaching itself: headmasterships, inspectorships, general administrative duties, etc. Although promotion to these responsibilities may be subject to a series of conditions (such as a minimum number of years of satisfactory service, further certificates, or even a competitive examination), there is an ever-increasing number of candidates for these posts. Thus, recently in Italy, there has been an average of ten to twelve candidates for each vacant post of primary school headmaster, notwithstanding the fact that the number of headmasterships increased from 2,871 in 1961 to 3,621 in 1966.

(a) False ideas of what constitutes promotion

Despite the efforts made to increase the number of mainly administrative posts, it has not been possible to meet the demand which, over the past ten or fifteen years, has virtually amounted in some countries to a "drain" of certificated teachers towards better-paid posts with lighter duties. In the periods of shortage that some countries have experienced - and are still likely to - salary scales and working conditions must be so arranged that some of the purely administrative jobs will not be considered as being clearly better than teaching.

Another "anomaly" in the notion of what constitutes promotion was noted in the recent periods of recruitment difficulties: it consists in encouraging the transfer from a lower to a higher level school.

To overcome recruiting difficulties, the authorities have indirectly encouraged the drain of the best teachers by offering them a job at the level above if they acquire some minor additional certificate.

Thus, in many countries, a large number of primary teachers have been able to teach either in secondary schools (vocational training, modern shorter secondary education), or in upper primary schools.

When the teacher training system is well organised from the point of view of encouraging internal promotion, shortages at some levels do not have a serious effect on balancing standards, and are even an incentive for teachers to take further examinations. Thus, 29 per cent of the teachers in higher secondary schools in the Netherlands began their career in primary teaching.

A situation where shortages actually require a transfer of teachers from one level to another - for example, as a population "bulge" reaches the transfer stage - may also reveal a lack of flexibility due to a very marked hierarchy in the training of the various teacher categories. As already pointed out, the need to have a teacher for each class may result, for a traditional system designed to train an "élite", in lowering the official standards. In any case, unduly wide differences in training limit opportunities for promotion, since advancement in a strongly hierarchical system depends far more on a high level of specialized knowledge than on acquired teaching experience which, in the form of equivalent qualifications, may replace part of the certificate required for teaching at an advanced level. Hence, in countries where training for primary teachers is much shorter than that for secondary teachers, the result is to limit primary teachers' opportunities for promotion to upper primary, shorter modern secondary or special schools. When the general training of primary teachers is equivalent to that of secondary teachers and can give access to the university, we may then find, as in France, that there is an immediate exodus (without a period of teaching at primary level) on the part of the best students, to the types of training preparing for posts in secondary education. Other student teachers "escape" at the same time from secondary teaching to appointments in higher education. This promotion takes place even before the teacher's career has begun, and deprives the original level of education of some good elements. The shortages experienced in many countries in recent years have thus been able to reveal the "false ideas" of promotion which have come to light inside the education system.

(b) New opportunities for promotion

Genuine possibilities for promotion should in future change the form of the various teaching careers. A person's promotion should be inside rather than outside his particular level of education.

Expansion of the education system and the creation of new functions

The considerable expansion taking place in the various types of schooling will certainly provide new types of posts outside the educational level at which the teacher holds his initial appointment. Thus, in Sweden, more opportunities for promotion, and therefore higher salaries than before, will be provided by the development of training institutes (for both basic teacher training and refresher courses), the expansion of special education, and the establishment of organisations for the study and production of various kinds of teaching aids. Some teachers, working as advisors in teaching methods, for example, may continue to teach in their original posts but with shorter hours. Additional opportunities will also be provided in Austria and France by the creation of posts for specialists in educational psychology.

Organisation of promotion to a higher level of education

As will be seen in Part three of this report, the trend towards a more uniform pattern of training for the various categories of teacher will also foster a justifiable development of opportunities for promotion from one level to the next. The teacher, in fact, by making a personal effort through refresher courses should have the opportunity of being appointed to a higher level of education if that is his ambition. Several conditions are necessary, however, if this is to be carried out properly: courses must be available to fit in with the teacher's timetable and duties; sabbatical leave must be possible, etc.(1) The disappearance of a graded organisation of training and categories of teachers can foster a smooth and balanced system of promotion based on the experience acquired, as exists in other occupations. In this connection, specific studies describing the policy adopted in each country would be extremely valuable.

New opportunities for promotion at the educational level to which the teacher has been assigned

Although limited in number, essentially administrative posts are being developed as far as possible at a similar educational level to that to which the teacher has been assigned. In Germany, assistant headmasterships have been established in secondary schools in recent years. In Sweden, the trend is to appoint a director of studies, a kind of assistant headmaster, who is more specifically responsible for dealing with teaching problems in the school. Such directors of studies usually have few teaching duties.

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(1) Furthermore, as for other categories of highly skilled manpower, the teacher should have the opportunity during his career of preparing himself for an occupation outside the education system; since he increasingly tends to have the same basic training as other specialists, this should present no difficulties inherent in the training itself.

The re-organisation of schools and the need to make education more effective - by making it more individual and by using each teacher's individual possibilities - leads to the creation of new posts in the schools. It is intended that these more responsible posts should go to the most dynamic and experienced teachers; they will make it possible to improve career prospects and increase emoluments, and will make education more effective as a result of the incentive provided by prospects of promotion to these new posts. The most frequently quoted example is the establishment of specialized departments in schools.

Some such decisions have been taken in Sweden, where department heads can be appointed in comprehensive schools and in those at upper secondary level. The post of head of a department covering one or more subjects may be created when the total number of weekly teaching hours is over 35 (in gymnasia - fackskola) or over 40 (in other schools). As many as 10,000 to 12,000 of these posts might be provided, which would mean that about one-seventh of the 80,000 teachers could qualify for appointment.

In schools in England and Wales, alongside those of heads of departments are other "graded" posts, which also entitle the teacher to a special allowance.

Generally speaking, appointment to these new posts carries with it lighter teaching duties, and the interest for the dynamic teacher is not solely financial. It thus seems possible to combine measures that will both make teaching more effective and improve promotion prospects.

5. Conditions of Service

Good conditions of service obtaining in a profession are one of its factors of attractions; if these are progressively improved persons may be persuaded to stay who would otherwise be tempted to leave.

In education, however, many premises are inappropriate and equipment is often inadequate. Budgetary contingencies and the rapid growth in enrolment have often meant that first priority was given to teacher recruitment rather than to new building and, secondly, to new building rather than to the modernization of old premises.

The example of Yugoslavia is very revealing here: half the school buildings date from the postwar period, 16 per cent are 65 years old and 22 per cent were not originally school premises. This meant that "combined" classes have had to be held in elementary schools where pupils in different years are taught together. The French Commission on the Improvement of Teaching Conditions meeting in June 1964 expressed the hope that school buildings would be improved. The same Commission wanted teachers to have suitable accommodation for their own work and for group work. Similarly, in Switzerland, the Report of the Federal Commission set up to study replacement problems as regards the "sciences morales" (ecclesiastics, social workers) the medical profession and middle level school teachers (1963)(1) recommended that the latter be offered better working conditions, especially libraries.

This Commission also endorsed recommendations which we find in many other countries, but which are expressed through a systematic policy to improve school efficiency. They applv to abolishing routine duties and to reducing the number of pupils per class and per teacher.

The question of reducing extra-curricular duties, as the next Chapter will try to show, should be approached and a solution gradually found, by making an exhaustive analysis of a teacher's duties in the framework of a policy for the optimum utilization of each person's particular qualifications. Both human and material aids properly employed could pave the way for the division of labour which is often non-existent in schools.

At the same time, the use of new teaching methods and techniques has resulted in increasing doubt being cast on the value of pupil/classroom and pupil/teacher ratios; we have already noted their characteristics in the first part of this report. What, in fact, do these concepts cover when teaching is being organised for small groups, for example? In Denmark, the use of this form of teaching is beginning to spread in the first four years of primary education. In 1963, it accounted for 3 per cent of teaching hours in all schools in Copenhagen. Teaching in half-sized classes was introduced in France, for certain subjects in the first two years of secondary schooling in October 1968. Teaching by means of television for a large number of pupils in the same building, town or region, by a highly qualified teacher or team, or the supervising and directing of individual work of a very small group of pupils may also in future transform the concepts and ratios of a style of teaching that has become much too traditional. While it is normal that the situation should improve as quickly as possible in this field, it should be emphasized that an overall solution to this problem must be found in very new terms associated with improved teaching efficiency.

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(1) Rapport de la Commission fédérale pour l'étude des problèmes de relève dans le domaine des sciences morales, des professions médicales et des maîtres d'écoles moyennes (1963).

Lastly, a reduction in the number of hours of duty, as in other sectors, should be indirectly facilitated by the improvement in the teacher's working conditions mentioned above. But comparison with other professions is very difficult and the establishment of a policy to attract more teachers - policy which is based solely on reduced hours - would require exhaustive enquiries into the teacher's various duties, into the time spent on each of them, into the importance of school holidays and so on. A reduction in weekly hours is therefore sometimes accompanied by a more intensive and more rational utilization of the qualification potential available. Whereas in recent years hours of duty in Denmark fell from 36 to 32 hours for teachers at the compulsory education level, and from 27 to 24 hours for those at secondary level, the latter in particular have been obliged to work overtime in subjects where teachers were in short supply. In Norway (in 1965), the weekly hours of teachers in upper secondary education fell from 24 to 22, while in Luxembourg (in 1966) hours of duty in general secondary education went down from 22 hours to 21 hours.

In France and Switzerland, the two Commissions mentioned above are also in favour of a reduction in teachers' weekly hours.

Hours of duty should also be discussed in relation to the teacher's career. Promotion to posts of responsibility at the same educational level is generally accompanied not only by a higher salary but also by a reduction in actual teaching hours where these have not been abolished completely. It has sometimes been difficult to reduce teaching hours in times of shortage. The teacher's efficiency, whether in the classroom or in his post of special responsibility (headmaster, assistant headmaster, form master, librarian, social activities connected with education, etc.), may therefore have suffered as a result. Many countries are trying to solve this problem as and when their teacher recruitment crises subside. The real advantages of a teaching career are therefore not only financial. In several countries (e.g. Denmark, Luxembourg), fewer teaching hours are required of teachers taking the top classes where lessons have a higher co-efficient.

If, during their career, teachers are required to teach in senior classes - perhaps following further examinations - they benefit from a reduction in teaching responsibilities. Such a reduction may also be automatic as from a certain age. In Denmark, the hours of duty of primary and lower secondary teachers who have reached the age of 60 are reduced from 32 to 27; the weekly hours of "gymnasium" teachers are reduced from 24 to 20. In Portugal, hours of duty decrease with length of service in secondary education, as shown by Table 111.

Lastly, the above-mentioned Swiss Commission of Enquiry has recommended that teachers' duties be gradually reduced as their career advances.

TABLE 111

Trends in teachers' legal weekly hours, according to length of service, in Portugal

Teacher category	No seniority	2nd level of seniority	3rd level of seniority
Technical teachers:			
1. Established teachers and auxiliary and temporary teachers at the upper secondary level	22	20	18
2. Assistant teachers and auxiliary and temporary teachers at lower secondary level	24	22	20
3. Industrial and preparatory instructors	36	33	30
4. Commercial teachers	30	27	24
General teachers	22	20	18

In order to attract more teachers to subjects for which recruitment is particularly difficult, it may be necessary as from the beginning of the career to offer fewer hours than the minimum required for other specializations. This policy has been adopted in Denmark to attract university graduates to teaching science subjects. The example of this latter country tends to prove that, so far as recruitment and the retention of teachers in the profession are concerned, wage policy as well as the improvement in working conditions must be kept very flexible and adjusted to labour market conditions.

It would not be natural, as was noted above, to separate the professional from the social and economic aspects of the teacher's status. Developments observed in the teacher's status show in fact that there is a close interaction between his qualifications, his duties, his promotion opportunities and his salary. The whole series of problems arising from this situation can be solved satisfactorily only by a thorough re-organisation of the working of the school system. The British authorities have therefore suggested that the opinion held of the teacher in modern society will depend on the work he does and the way in which he does it. Instead of merely being a cog in a general process, the teacher will be able, thanks to the new techniques gradually put at his disposal, to take over control of that process. Provided he has been properly prepared for this, there is no reason why his standing in society should be a handicap to quality recruitment.

CHAPTER IV

UTILIZATION OF TEACHERS AND IMPROVEMENT IN TEACHING EFFICIENCY

The first three chapters of this section of the report dealing with policies of teacher recruitment and utilization, have concentrated mainly on the various measures likely to, attract to and retain in, the profession the maximum number of qualified teachers. It is not enough, however, to provide the school system with a reserve of qualified staff. A more national deployment of the teaching staff is essential in view of the quantitative and qualitative difficulties of recruitment, some of which may continue over the next few years. The subject may be approached from two angles. In general, one might examine the question of how many hours' work a teacher actually does. Paradoxically, this problem is very difficult to tackle at present, due to lack of exhaustive research based on international comparisons. National regulations vary far too much, and the present state of available information hardly permits conclusions to be drawn. However, as a result of imbalanced distribution of staff - disequilibrium which might permanently affect some areas - various measures have been taken. These have proved fairly effective on the whole and have permitted the optimum distribution of teachers. The other angle would consider how to make the most rational use possible of the teacher in his school and his classroom. This action is part of the more general policy to improve teaching efficiency and appears still to be in its early stages to the extent that it is tied to the considerations and changes affecting the actual working of the whole of the organisation of school life.

1. Optimum Utilization of Certificated Teacher Potential

(a) Number of teaching hours

When a category of highly skilled manpower becomes scarce the situation is examined to see not only whether rational use is being made of this manpower, on the basis of the legally established working week, but also whether additional hours should not be worked for a more or less lengthy period. The legal number of teaching hours required means little, for the teacher's other duties should also be taken into consideration, such as lesson preparation and marking. The time devoted to the latter may vary in the light of the concept and organisation of school life.

Some educational systems lay down the number of weekly hours of service for teachers according to the level of education taught or the category of teacher. International comparisons of the weekly hours worked reveal fairly wide differences from one country to another. It should then be verified whether these differences still exist if the comparison is based on the annual number of hours legally required. Lack of information on this problem prevents us from drawing any conclusions from Table 112, which gives a few examples of weekly working hours in general education.

TABLE 112

Examples of weekly service obligations

(hours or lessons)

Educational level / Country	Primary education	Secondary education	
		Upper primary or lower secondary	Long or upper secondary
Austria	25	21-24	18-21
Denmark	32	32	24
Spain	-	-	18
France	30	24	18 (*certifiés* - certificated) 15 (*agrégés*)
Greece	28-32	-	22-26
Luxembourg	27		21
Norway	-	-	22
Netherlands	26-29	26-29	
Portugal	-	-	22 (newcomers)
Sweden	30	24	21
Yugoslavia	20-24		-

The hours worked by permanent teaching staff in technical education generally differ from those of staff in general education. For example, in Sweden 36 hours are worked, and in Luxembourg 22 hours for primary and secondary teachers, and 20 hours for workshop supervisors and instructors. In France, in long technical courses, teachers on the theoretical side must teach 32 hours and the assistant technical teachers 36 hours; in short technical courses, teachers of both general and technical subjects work 25 hours, and the assistant technical teacher 40 hours. In Portugal, teachers work 24 or 22 hours per week (unless they have seniority, for which a reduction in duties may be made), and commercial instruction supervisors 30 hours (newcomers). Instructors in charge of industrial and preparatory courses work 36 hours (newcomers), and assistant instructors 42 hours.

Other countries, such as England and Wales, do not have a fixed number of working hours for the full-time teacher; he is engaged to carry out all activities which take place at the school; and is therefore at the school's disposal throughout the time it is open, which is generally seven hours a day. This means, particularly in primary and State general secondary education, that the time needed for preparing lessons and marking is included in the general timetable. But it is precisely this latter point which is usually disputed in countries where the law fixes the number of hours for the various types of school when an attempt is made to calculate the work actually required of the teacher. For example, in Yugoslavia, actual teaching time is between 20 and 24 hours per week, with 10 to 12 hours for preparation and 4 to 6 hours for extra-curricular activities (supervision, administration). The teacher therefore has an average working week of 42 hours.

A survey recently carried out in France showed that the number of hours spent on preparation and marking varies according to teacher:

TABLE 113

Percentage breakdown of teachers by time spent per week on preparation and marking in France

	Number of hours				
	9h	10h-19h	20h-24h	+30h	Total
Primary school teachers	13	63	20	4	100
Secondary school teachers	6	32	43	19	100
Total	9.5	47.5	31.5	11.5	100

Source: "Représentation de la condition du maître dans la société" (The condition of the teacher in society), *Enfance*, Nos. 2-3, April-September, 1966.

However, as part of a systematic policy for the utilization of certificated teachers, the Danish educational authorities, thanks to overtime, include the time spent on marking in the legal working hours. The graph mentioned in the previous chapter on educational policy brings out the time spent on such marking. This legislation, which is closely related to salary policy, necessitates a careful examination of the organisation of the teacher's work. Progress in research in this field will make it possible to determine the teacher's duties and hours of work more accurately. The Swedish survey referred to in Table 114 provides an example of the kind of survey required.

Some countries, particularly those where teachers' working hours do not correspond to those worked in other professions, have revised or are thinking of revising their hours of work. Thus, in Spain, the weekly hours in State secondary schools have been raised from 15 to 18 as part of a re-organisation of duties and salary scales. Previously, these teachers made up their hours by combining duties in several schools, particularly private schools. In view of the shortage of certificated staff, the authors of the Spanish report prepared under the Mediterranean Regional Project thought that 24 weekly teaching hours should be laid down. The difference might then be covered by overtime.

In Italy, the authorities have suggested that it may be necessary to amend the working hours and require more class hours of teachers(1).

Faced with the shortage of teachers, the educational authorities have naturally had the choice between intensive utilization of available certificated staff and recourse to less qualified staff. Although many countries at once opted for the first method, some did so by setting up regulations under which, if necessary, the teacher is expected to put in several hours beyond the normal working week. For example, in France, new posts could not be created in schools during the period of acute shortage until all the possibilities of overtime had been exhausted. As observed in Part I of this report, many countries have had recourse to such a policy. In general, teachers did not refuse, as they were thus able to increase their revenue. In Denmark, extra hours have been introduced on a virtually permanent basis as part of salary policy, and, as in Sweden, there is theoretically no ceiling to overtime. This policy is based on a careful study of the teacher's timetable (e.g. inclusion of the time spent on marking) and on the reduction in working hours, these being compensated for in the form of overtime. Otherwise there would be a danger of exceeding the optimum compatible with an evenly balanced teaching timetable. Thus, the French survey referred to (Table 113) has shown that teachers with the largest number of classroom hours do not spend the most time in preparatory work. Although authorizing or encouraging overtime we have seen that some countries (e.g. Austria, Greece and Luxembourg) have fixed a ceiling which varies according to country and category of teacher. In primary education, the maximum is 8 hours a week in Greece and 4 in Luxembourg, and in general secondary education, 12 and 3 hours respectively.

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(1) Review of National Policies for Education, Italy, OECD, Paris, 1969.

The optimum utilization of teachers and the fixing at national level of their working hours are still based on very little knowledge of their real duties. The absence of data thus makes international comparison very doubtful.

A number of States have made surveys on teachers' real weekly hours in view of the shortage of certificated staff over the past few years. For instance, it was found in Portugal (in 1961-1962) that the hours of 41 per cent of academic teachers and 33 per cent of technical teachers were fewer than as fixed by law(1). Although some teachers, who are relieved of part of their work because they carry out special duties, may not have been included in the survey, these findings show that to the problem mentioned above of fixing the number of working hours must be added that of the effective utilization of available certificated staff whether throughout the country or within the school.

(b) Optimum distribution of teachers throughout the country

Regardless of the extent to which recruitment is decentralized, teachers refrain from applying for posts in what they consider to be the less attractive regions or, if compelled to accept an assignment, apply for transfer at the earliest possible moment.

Distribution of available posts

When there is a dangerous increase in the shortage of teachers, local authorities bid against one another to attract the best teachers. Examples can be given of measures taken by national authorities to counter this development, whether in the framework of a decentralized recruitment and staff administration system, or in that of a fairly centralized one.

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(1) MRP, Country Reports, Portugal, OECD, Paris, 1966 (Tables 55 and 65).

In England and Wales, following a period in which local authorities had had no recruitment restrictions, thus causing serious disequilibrium as between regions, a new system called the "quota" scheme was introduced from 1956 onwards. The idea was to restrict the number of posts created in areas where there was little or no difficulty of recruitment so that other areas would have their share of available teachers. In this way, it was hoped that areas where supply was scarce would gradually be brought up to the level of the more favoured ones and that an abrupt geographical redistribution of teachers would be avoided.

After the system had been working for ten years, this aim appeared to have been achieved; the available "qualifications" are pretty much the same for all regions apart from a few which had exceptionally high standards when the scheme started. The Department of Education and Science announces the local authorities' quotas a year in advance in order to give them time to adjust the scale of recruitment and allow for impending retirements and resignations. This scheme, although not legally enforceable, has been accepted by Local Education Authorities. Any Authority exceeding its allocation is asked to take steps to remedy the situation.

Similar measures have been taken in Denmark, where a teacher rationing scheme has been introduced which in practice regulates the creation of new posts. The number of posts created must be approved and is related to the length of the courses and the number of classes and streams in each school. In addition, teachers applying for a post are obliged to choose those offered particularly in rural areas which they would otherwise have neglected.

In France, where the teacher recruitment system is fairly centralized, it was decided to establish a national co-efficient for shortages by subject in secondary education in order to reduce inequalities noted between academic districts. The mechanism works so as to block certain posts on the basis of a yearly weighted allocation which is decided on the basis of the optimum utilisation of staff, and to distribute established posts as evenly as possible among the various schools. Non-established substitute teachers are assigned to the established posts that have been blocked. This is done when staff movements occur, the idea being to spread the shortage out evenly on the basis of the national average. This measure was effective for some subjects but for others it was difficult to achieve the anticipated result because of persistent recruitment difficulties.

This type of conservative measure can be revoked when the situation becomes normal again. Nevertheless, more or less extensive decentralisation of the educational system can impede such policies. In particular, countries with a federal structure have to introduce harmonization measures if they wish to encourage mobility among teachers in order to overcome part of the existing shortage. In Germany teachers have no automatic right to a post in a school in another *Land*. It would be very useful if countries with a federal structure could compare policies in this field.

Special improvements in the statute

The refusal of some teachers to be posted to isolated areas may also have something to do with the mediocrity of the terms they are offered. It seems, for example, that some countries, particularly those in the Mediterranean region which have to deal with this problem, have not yet taken all the necessary measures. The salary differential is inadequate, transport and accommodation are badly organised and the young teacher does not receive adequate assistance from the Inspectorate. If a teacher wished to take advantage of his period of isolation to do personal work, he often lacks a small library. It is understandable that young teachers should have to accept assignment to isolated areas as a form of "national service", but they should be given assurance of transfer to another post after a certain period and, in the meantime, be able to rely on their administration to look after their material and intellectual well-being. These problems are now being examined. The structural reforms considered desirable in Portugal include the setting up of a scheme on behalf of teachers in areas where housing and cultural facilities leave much to be desired. In addition to a special salary increment, free transport is proposed during the holidays to enable them to see their families. It was also considered essential to suggest that the credit for the teacher's period of service in such areas be increased within legally prescribed limits.

It is not only in the rural areas of developing countries that are found such particular problems as teachers' housing. Some large urban areas in Europe have been affected by the housing shortage, and teacher appointment has sometimes suffered as a result. For example, in Sweden, the low level of the qualifications of primary school teachers in the city of Stockholm is perhaps after all due to the difficulties experienced by teachers in finding accommodation. Thus in some of the less attractive areas it has been possible to overcome the scarcity of certificated teachers by offering them excellent housing conditions. In the Netherlands, the same phenomenon was noted in Amsterdam, where facilities for finding housing no longer existed, and teachers (especially the younger, recently married among them) preferred to settle in smaller towns or in the suburbs. Strictly speaking the solution to the problem in this particular case lies outside the organisation of education.

In Sweden, the idea of "shortage posts" has been adopted. Teachers who agree to take up such posts may be exempt from pedagogical training and from two years' probation. Furthermore, a teacher qualified as "assistant master" may be appointed to a shortage post as "lektor" or senior master even though he has only the "theory" part of the certificates required.

Location of training colleges

Another factor likely to make an equitable geographical distribution easier is the well-balanced location of training institutes. All other things being equal, there is more chance of keeping young graduate teachers in the area from which they come if training colleges can be decentralised there. This generally means that the appointment of primary school teachers raises fewer problems than that of specialist secondary teachers. For instance, in Sweden, specialist secondary school teachers are not so scarce in areas near the Universities. The University decentralization at present under way in many countries might therefore help indirectly during the next few years to establish a certain balance in the regional distribution of teachers. However, there are limits to such decentralization and it is perhaps greater urbanization which might in the long term reduce to a strict minimum the inequalities in the regional and local distribution of certificated staff.

(c) Amalgamation of small schools and teacher utilization

The optimum utilization of teachers may prove impossible when natural, legal or institutional obstacles prevent the formation of sufficiently large educational units(1).

Action against natural obstacles

The natural obstacles are often created by the wide scatter of population and the difficult geographical relief of certain areas. For example, in Greece, where 42 per cent of all primary schools are one-teacher schools, concentration is not practicable for the moment as some small communities are too far apart. It is sometimes necessary therefore to wait for the movement away from the land to speed up before being able either to close down the schools or get rid of some of the classes; this is what has happened in rural areas in developed countries such as France, where, according to region, one-teacher schools are on the increase or larger educational units have been established by extending the use of school buses. Obviously, the migration noted from town centres to their outskirts does not entail as much difficulty for the amalgamation of classes. Thus, in Sweden, before 1962, the maximum class size was applicable to the entire area covered by the municipality, so that, in order to avoid creating a new class when this maximum was exceeded, the overflow could be transferred to another school where the maximum had not yet been reached. On the other hand, it is not entirely possible to eliminate small or one-teacher schools in certain rural or mountain areas, as school bus services are either impossible or too tiring for the pupils; some schools must be kept on in order to prevent the village or region from dying out.

In Denmark, educational legislation, especially the Act of 1958, encourages the creation of larger educational units in rural areas. The educational authorities had been able to pay for a pupil to go to a private school instead of creating a new class, for example, for the period of compulsory school attendance. They could also bring about school concentration by merging several small educational districts. In 1965-1966, only 6 per cent of all pupils (excluding those receiving special education) attended schools which were not organised on the basis of a class for each age-group. In 1966-1967, this proportion had fallen to 5 per cent. The proportion of teachers in one-teacher schools (as compared with all teachers) fell from 5.4 per cent in 1951 to 0.2 in 1965. Lastly, in 1951, the typical rural school had an average of only 58 pupils, as against 183 in 1966.

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(1) The cost of small schools is higher; they always require a minimum amount of equipment, but too many small schools may have the effect of preventing them from acquiring even this minimum.

In France, it was only as from 1961, under migration conditions, that the posts abolished and created compensated each other to some extent. Thus, it is planned to close down 8,000 under-occupied classes between 1966 and 1972. This would represent an economy of about 10.8 per cent in recruitment over the whole period.

Action to overcome legal obstacles

Legal obstacles arising from the teacher's statute may slow down a policy of this sort. The regulations concerning in particular the ways by which central authorities subsidize local authorities might possibly be amended to facilitate the concentration of schools. Thus, in Denmark, the responsible authorities are considering in what way an increase in the proportion paid by the Central Government towards school transport and building, or the contribution made by the local authorities towards meeting teachers' salaries (at present 15 per cent) might indirectly help improve teacher utilization.

There might also be some tie-up between the place where the teacher was trained and his posting at the end of the course. Legal or tacit rules establishing a firm link between the place of training and the place of work could help the teacher to find a post in the area where he was trained. A shortage might exist in one area without its being filled by an excess of teachers in another. When estimating the number of posts to be abolished each year in primary education, the French IVth Plan Commission noted that the "départemental" unit for teachers was an obstacle to full compensation (as regards the abolition and creation of posts). It is in fact increasingly difficult to enclose the future teacher within narrow geographical bounds when rural areas are being affected by considerable population movements as a result of economic development. The teacher's horizon itself will be widened in most countries as a result of greater flexibility in the location of new teacher training colleges.

Action to overcome institutional obstacles

Sometimes the amalgamation of schools may be held up as a result of duplication due to denominational reasons, and a refusal to have mixed denominational schools. For example, in the Netherlands, schools are amalgamated on a denominational basis and, although because of the high population density they are not necessarily smaller than elsewhere, they are nevertheless smaller than the optimum required solely on the grounds of possibility of access (distance, or organisation of school transport). This situation meant, in 1964, that fewer than 20 lessons a week corresponded to 42 per cent of requirements in general secondary schools (pre-university and middle schools). In Germany, the sub-division of primary schools for denominational reasons has resulted in a large number of small schools. Any improvement in the situation in such countries will finally depend on the trend of factors outside the educational system. Recent agreements envisage more schools catering for children of different denominations.

The refusal to have schools of mixed denominations is another cause of the partial utilization of the certificated staff available. In Ireland, the mobility of teachers, especially for science and mathematics teaching, is hampered to a large extent by the fact that teachers normally teach only pupils of their own sex (for some religious Orders, this is obligatory)(1). In Spain, the Mediterranean Regional Project report shows that segregation by sex is the main obstacle to the creation of a larger number of centralised multiple-class schools. The authors of the report therefore conclude that much simpler regulations should be introduced, as an increase in the number of centralized schools is essential to the coherent development of primary education.

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(1) Investment in Education, Ireland, OECD, Paris 1966; the survey referred to in this report shows that 56 per cent of the male and 62 per cent of the female science and mathematics graduates are in holy Orders.

Steps have long since been taken in this direction by many countries. In fact, on the whole, the policies intended either to amalgamate schools or extend multi-denominational classes have not simply the better utilization of teachers in view. Pedagogical arguments have also been put forward: optimum school size allows teaching to be organised more rationally and makes it more effective for the pupils. It is therefore interesting to note that, in Sweden, to avoid a steady fall in the size of classes in comprehensive schools below what was fixed in 1962, the National Council on Education has recently recommended local education authorities to keep them up to the proper size. The setting up of larger school units may be envisaged if necessary.

(d) Possibility of using teachers in more than one school

Teaching in several schools

Some of the difficulties which prevent amalgamation into one building on a larger scale may also arise when using one teacher in several schools. Distance and transport difficulties may in fact restrict the using of teachers in this way - which would have the great advantage of bringing the teachers' hours up to the legal minimum and also of putting a highly specialized and particularly competent teacher at the disposal of several schools. The splitting up of pupils into denominational schools also prevents this policy from being applied. For example, in Ireland, members of religious Orders can in general teach only in schools belonging to their own Order and, in certain cases, only those schools in their particular diocese (in particular, the nuns belonging to the two Orders which are mainly responsible for girls' schools, are subject to this rule)(1). In addition to these difficulties is that of adjusting the timetables of the various schools concerned. Where the teachers are specialized, a combination of these factors might result in the inefficient use of the teachers' time. In the Netherlands a few years ago, only 2 per cent of elementary technical teachers taught in more than one school. Assuming that the religious obstacles can be removed, itinerant teachers would be used mainly in the large cities and their suburbs. Thus, in Greece, secondary school teachers will be expected to teach in other schools than their own, in the same town, to make up the full number of working hours. A similar regulation may apply to overtime, which could be worked in other schools in the town or its immediate vicinity.

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(1) Investment in Education, Ireland, OECD, Paris, 1966.

Teaching two or more subjects

Secondary school teachers can be fully employed more easily if they are trained in two or more subjects. As we shall see in Part three (Chapter III), of this report there is a trend away, particularly at lower secondary level, from training which favours a single, highly specialized subject - a trend which is all the more pronounced at lower secondary level where, as geographical inequalities in enrolment tend to disappear, a fairly wide dispersion of schools becomes necessary. For example, in Yugoslavia, few subjects are taught for more than two periods a week in the upper part of the single school so that, in order fully to employ a teacher specializing in a single subject there would have to be 16 classes in the upper part or 32 in all if the lower is included. The number of classes, however, is much lower than this in most regions, and sometimes there is only one class for each year in the upper part (four-year course). Training colleges are therefore studying the best method for extending two-subject training. In Greece, certain chronic shortages have led to specialist teachers being asked to teach a second subject, e.g. the mathematics teacher to take physics as well.

Since technical school pupils are now being given a much wider training than hitherto, including a longer period of general education, a similar trend is also taking place in what is still the very specialized training of some categories of technical teachers.

2. Improving Teaching Efficiency

The way in which schools and classes are organised often hinders the application of policies for providing education with the teachers it needs. The demand for teachers depends on many variables, the most important of which are: the size of the class; the number of teaching hours offered to the pupils; the teacher's school duties, and the number of optional subjects in the same class (technical education), etc.

(a) Present prospects for the use of new teaching methods

As, in a good many countries, the value and interaction of these variables are not yet known, often nothing more is done than to divide the number of pupils by that of teachers in service. This ratio is therefore generally regarded as a very rudimentary quantitative indicator. The concept of the pupil/teacher ratio as at present used for forecasting purposes is still criticised, since it does not take into consideration the new teaching methods and techniques which are beginning to spread and which should gather considerable momentum in the next 20 or 30 years. It should therefore be accepted that, if such notions as the pupil/teacher ratio or the pupil/classroom ratio continue to play a privileged part in the elaboration of educational and teacher recruitment policies, it is because they still belong to the arsenal of concepts which govern educational systems in the same way as they define the role of the teacher.

The example of Sweden is apposite here. When the comprehensive school was introduced in 1962, the size of classes was reduced in the three parts of the school (lower, middle and upper). Since the reform aimed at more individual teaching, it was considered that the best way of going about this was to reduce the class size.

It was thus noted over a fairly long period that the number of teachers increased proportionally faster than the number of pupils. The experts(1) consider there are not only social but pedagogical reasons for this. The number of hours worked by teaching staff is tending to fall as is also, on the whole, the number of pupils per class, finally, the greater importance attached to advanced studies is an incentive to increase the proportion of small classes. These two latter trends originate in the axiom that pupils' results improve as the number of pupils per teacher falls and classes become smaller. It was no doubt concluded that the concept of productivity as used in industry does not apply to education. For example, contrary to what happens in most other professions, it has practically never been assumed that labour productivity in education should rise at more or less the same rate as real salaries. The productivity of the teacher is difficult to define; it cannot be isolated from that of the system of which it is part and is therefore not measurable as such. Theoretically, one might say that the teacher increases his productivity when, all other factors remaining constant, either the number and/or the quality of the pupils taught increases. As things stand at present one should therefore avoid using the term productivity and use "efficiency" which seems to give a better idea of what is at present being done in many countries. There is, in fact, a marked attempt during the present period to use teachers in service more rationally.

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(1) Svennilson, Edding, Elvin: "Educational Objectives in Europe for 1970", Policies for Economic Growth and Investment in Education, OECD, Paris, 1966.

New methods have sometimes been used, as have also new technical aids likely to economise teacher/hours by substituting capital for work without however, sufficient care being taken - except in rare cases - to see that these are fully integrated. The new technical devices, used mainly to help the teacher, are sometimes still at the experimental stage. A great deal of research is still necessary therefore before they can be put into general use.

(b) Elimination of routine duties

In addition to his teaching and lesson preparation, periodic meetings with his colleagues and the school authorities, and perhaps supervision of schoolchildren during after-school activities, the teacher is also obliged to carry out duties which have no direct bearing on his teaching. These are various and range from deciding the term end position of pupils, to the preparation of equipment for scientific experiments, and may also include supervisory tasks.

For example, in Luxembourg, technical teachers are employed for one or two hours per week on such jobs as:

- co-ordination of the various branches in a section;
- upkeep of laboratories, and seeing that equipment is returned;
- preparation of the "raw material" for workshop exercises.

They can, however, obtain compensation in the form of a reduction in their normal weekly teaching hours.

Although the disadvantages of this situation are recognised, no possibility of changing it is envisaged in the near future. This was stressed particularly in Portugal and Greece. In the latter, the teacher in rural areas acts as secretary to the community and to the local agricultural co-operative; he is also chairman of various committees (e.g. distribution of assistance). Since 1965, school meals have been introduced, and are now served to 400,000 schoolchildren, and the teachers concerned spend ten to twelve hours a week on this duty.

In general, no precise information is available on the number of hours spent by teachers on other than teaching activities. It is increasingly believed that an improvement in teaching efficiency depends on a reduction in secondary duties. This process, which as we have seen will improve the teacher's status, can be developed only if a detailed survey is made for each level and type of education of his various tasks.

A detailed survey project of this kind exists in Sweden. In the course of discussions with teachers' associations when comprehensive schools were being made general, a Commission of Enquiry on Teachers' Conditions of Service was created in April 1964. The argument put forward by the teachers' representatives that the reforms would increase the teachers' workload could be neither accepted nor rejected for lack of information on the present or future situation. The Commission of Enquiry has therefore to make exhaustive investigations into teachers' activities - both inside and outside the classroom - and propose measures to improve teachers' efficiency by rationalizing some of their duties and by entrusting the more routine to less qualified personnel. An example of the kind of questionnaire to be completed for this survey is shown below (Table 114).

TABLE 114

Example of how a teacher's time is spent during half a day: Swedish survey

Tasks connected with teaching														
1. Teaching, preparation and similar tasks ... English A 13					8,00		8,55							
2. ... English A 113														
3. ... German R 13									9,45					
4. ...														
5. ...														
6. ...														
7. ...														
8. ...														
9. ...														
10. ...														
11. Written exercises (preparation and correction)						Germany R 13				10,30				
12. Supervision of written exercises (see 11)														
13. Supervision during recreation, meals, etc.														
14. Staff meeting														
15. Meeting with pupils and parents about school work														
16. Excursions for pupils and one or more day schools for teachers														
17. Syllabus for the academic year, the term or part of the term														
18. Contacts with other teachers concerning educational problems														
19. Hours of work in other schools, including preparation and similar tasks														
20. Responsibilities of the senior master, administrative and social, within the school														
21. Responsibilities of the senior master: supervision of pupils outside class time														
22. Work of the senior master in various subjects														
23. Work carried out by a head of department (chemistry, geography)														
24. Work of the Deputy Head, Librarian, etc., entitling him to a special allowance (specify)														
Personal work														
25. Attendance at refresher courses														
26. Preparation for examinations and courses in special subjects														
Rest and leisure														
27. Rest, sleep, personal hygiene	00,00													
28. Meals		7,10									12,10			
29. Personal activities			7,25									12,40		
30. Time left free for leisure													12,55	
31. Extra-mural activities (specify)														
Travel and free time														
32. Travel between home and school				7,40						11,55			13,35	
33. Time to go to or from the various school buildings														
34. Time free of classwork during the day						8,45		9,40						
35. Other activities connected with teaching														

The main questions have the advantage of not being limited simply to the teacher's work inside the school but of stressing, for example, time spent on refresher courses.

In England and Wales recommendations concerning the use of auxiliary staff in primary education have been made by the Central Advisory Council for Education; in its report, "Children in their Primary Schools" (the Plowden Report).

Some experts in Austria think that from 6 to 8 hours per week could be gained by a better division of duties in secondary schools. "Assistant teachers" (Erzieher) have been introduced into Austrian boarding schools providing pre-primary, primary and in some cases secondary education. They will release teachers from the chore of helping pupils with their personal work and from giving music, physical education and drawing lessons, etc. Two special colleges have been established to train this new staff. The wider use of auxiliary staff to take over administrative and supervisory duties seems to be a fundamental factor in establishing the professional value of teaching. This could be given further impetus if some of the duties for which the teacher is still responsible could be done by "new mechanical slaves". The range of what are considered as "routine duties" could be widened if part of the teacher's work (testing pupils, giving detailed explanations in the course of a lesson, etc.) could be done by new technical devices. However, not all teachers could be released immediately. Some small schools may not have the financial means to acquire these innovations or their small size may not justify such a change. In Yugoslavia, for instance, it is mainly by increasing the size of secondary schools that teachers have been released from certain duties and their work rationalised.

(c) New teaching methods and techniques

For some time now, various teaching techniques have been the subject of research and pilot experiments. In addition to equipment which is easy to use, such as film projectors, record players or tape recorders, it is mainly radio and television which are being introduced.

Audio-visual aids

School radio has long existed in some countries. In Yugoslavia, regular broadcasts began in 1947-1948, although school television began only in 1960-1961. Programmes had increased from 90 minutes per week to 160 minutes per day for five days a week, five years later. Surveys have shown that many schools watched these programmes, which were mainly intended for general primary and secondary schools.

In Portugal, school television is attached to the Institute for Audio-Visual Teaching Aids and began only in 1965-1966. Although a reduction in the number of teaching hours is expected, the experiment is too recent for the results to be known. School television is at present confined to "supplementary" lessons for primary schools, courses for adults and standard courses for lower secondary schools. School television has not yet begun in Greece. In Austria, it really began only in 1959. In the Netherlands, the School Television Foundation came into operation experimentally in 1963. About 3 per cent of the schools were affected by this experiment. Courses range from the two top classes in primary schools up to the top class in secondary schools.

Generally speaking, audio-visual aids are being increasingly used in all schools. In Luxembourg, for example, new aids (especially audio-visual) are under study for all levels of education; It is planned to use such aids for language teaching in all primary schools. In England and Wales and Sweden, the authorities concerned have noted a rise in the use of audio-visual aids.

Table 115 shows the proportion of State schools in France which have audio-visual equipment:

TABLE 115

Proportion of schools with radio or television equipment in France (1965)

Educational level	Type of equipment	
	Radio	Television
Elementary	27.5	5.7
Secondary	53.4	46.5

In spite of the shortage of certificated teachers for certain subjects in France between 1950 and 1960, it was insisted that school radio and television should be considered only as a complement to teaching. It was not wished "to replace the existing teacher ... and there was no intention of replacing the absent or inexperienced teacher". However, during the subsequent period, the full force of audio-visual aids was concentrated on a few greatly felt and urgent needs, such as science and language teaching. This period was therefore marked by the wish to provide teaching support at lower secondary level. This consisted, within the existing school structure, of taking over the most difficult parts of the course, bearing in mind the large proportion of teaching posts that had been filled by uncertificated staff.

Outside Europe, a survey in Japan (1961) showed that audio-visual equipment was already being widely used in schools.

In view of the cost of some of this equipment and of the priority which must be given to the various educational requirements it is becoming necessary to plan these aids. When equipment is supplementary to teaching - such as films and projectors - a situation where there are too few films, as in Yugoslavia, or projectors, as in Austria should be avoided. Some countries have therefore set up specific plans for some of their equipment. In Sweden, for instance, an equipment plan has been drawn up for the

TABLE 116

Proportion of schools with audio-visual equipment in Japan (1961)

Educational level	Type of equipment				
	Radio set	Television set	Film projectors	Tape recorders	Sound films and projectors
Primary	100	61.5	81.4	71.8	22.9
Lower secondary	100	49.0	75.3	72.8	19.0
Upper secondary	100	28.0	60.0	57.9	15.2

Source: Education in Asia, Ministry of Education, Japan, 1964, (Table 61).

next five years for upper secondary schools to obtain similar audio-visual aids to those already available in a large number of comprehensive schools. In France, it was a veritable school radio and television expansion plan which, as from 1963, made it possible to equip schools in line with the priority to be given to aid for teaching. However, in almost every case, there has never been any serious evaluation made of the use to which this equipment is put.

Obstacles to extending the use of audio-visual aids

The obstacles to extending the use of audio-visual aids are of various sorts, and may be due to material factors (financing cost or premises' problems) or to human factors (resistance to innovation).

The problem of appropriate premises arose in Yugoslavia, where lack of space has proved an obstacle to increasing equipment. School buildings were obviously designed at a time when much of this equipment did not exist, or had not yet been distributed. This raises the wider problem of the multi-purpose utilization of new school building; for example, it is no longer sufficient to provide storage space or rooms specially equipped with modern material. It should be possible for new discoveries in the field of audio-visual aids and their utilization to be introduced quite rationally into new school buildings.

The size of the school is also an important factor in closed-circuit television. In the Netherlands, where every effort is being made to make up for the shortage of specialist teachers, experience has shown that for an installation of this kind to be worthwhile, the school has to be a big one with a number of classes at the same level. The "cost" aspect then becomes very important. Thus, the fact that few secondary schools in France are equipped with television sets is due, according to some, to the fact that broadcasts are still too few and far between to justify buying equipment. A sort of vicious circle is created by the initial conditions of the experiment. For television, for example, school broadcasts have always been launched on the normal channels; if school programmes develop any further, their timetable will be in competition with that of the ordinary programmes. The extension of school broadcasts therefore depends on the technical and financial possibility of introducing and developing a specialized channel.

Lack of funds for making this type of investment at class level (television set) is also a handicap in many countries. The possibility of reducing the cost of equipment should therefore be examined. The authorities in Austria hope to develop school television thanks to a cheaper set for school use designed in association with the industry.

On the whole, very little information exists on the actual cost of using the various audio-visual aids. Few studies have been carried out as it is not possible to separate the cost of installation and operation from the actual use made of these aids in schools. In particular, the effectiveness of this type of teaching should be assessed. The position in the Netherlands is instructive in this respect: of all the schools in a position to use teaching films, roughly only one-third do in fact do so. Neither is any information available on the use made of school radio. It is therefore important that more surveys be conducted on how equipment is actually used, such as those carried out in France on the percentage use made of school radio and television and on their effectiveness. This percentage (see Table 117) is obtained by dividing the number of schools which follow the broadcasts by the numberber of schools equipped: the average audience per broadcast can be used to find the national percentage.

The success or failure of programmes, their timing and so on are checked through sample surveys. For instance, in 1964, there was a television-mathematics survey (bottom form), a radio-latin survey and a radio-mathematics survey. In 1965 it was mainly on English broadcasts that systematic checks were carried out.

The above example shows that this question goes far beyond purely financial considerations. An examination of the effectiveness of broadcasts also requires that the need for introducing new techniques into the teaching process and the possibility of doing so, be considered.

TABLE 117

Percentage use made of school radio and television in France, by type of school (1965)

Level and type of school	Equipment	
	Radio	Television
Primary schools	34	38.1
Technical schools	54	40.8
General schools	20	11.6
Secondary schools	22	22.0
Grammar schools	12	12.2
Technical grammar schools	-	19.8

One of the major obstacles is, in fact, resistance to innovation on the part of teachers, headmasters or governing bodies; this attitude is mainly the result of the failure to instruct staff in the use and development of this new equipment. Teachers have more readily accepted techniques which helped them with their teaching without entailing a virtual "technological revolution" in the school. The same problem arises as regards the other methods likely to modify or transform completely the teacher's role.

(d) Research into other teaching techniques and methods

Whereas audio-visual aids are in more or less general use according to country and level of education, other techniques are still the subject of research and experiment and their use is for the most part limited to a small number of pilot schools. The new media are being studied in connection with research on new teaching methods concerned with individualized teaching, where some of the teaching time is devoted to the individual pupil or to small groups instead of to the class as a whole. Investment should therefore be increased to allow this to be done.

Programmed teaching holds an important position in this respect. In Sweden, for example, experiments have recently been carried out on the individualised teaching of mathematics in the upper part of the comprehensive school, and on the advantages to be obtained by dividing pupils into small or into large groups ("Trump Experiment"), the teachers being grouped in a team and using the various technical media available. Several other research projects are in hand. In France, there is an experimental secondary school in the Paris area which is run along the same ines.

Current views on teaching efficiency and teacher demand

The general impression gained from a survey of conditions in most countries is that so far little use is being made of new teaching methods or techniques and in many cases these are either still at the experimental stage, or are used in addition to the ordinary methods. Some aids that are easy to handle and inexpensive are widely used.

In England and Wales, it is the local authorities who are responsible for deciding whether new teaching aids will be introduced; the use of aids is too restricted and experimental to have any noticeable effect on the demand for teachers, thus, as was specified in the Swedish case, the main aim of research on the use of new teaching techniques and methods is to improve quality and give pupils a better education but without necessarily using fewer teachers. Nevertheless, it is not denied that this research work may bring out opportunities for economizing teacher/hours.

It is interesting to note that in line with a policy to rationalise work in education, some research on new techniques which are intended to supplement teaching is regarded as possibly likely to result in being a substitute for teachers.

The problems which might arise in the next 20 or 30 years in teacher recruitment seem to indicate that it would be unreasonable for current research to stress only the supplementary qualities of new teaching methods and techniques. As pointed out in the conclusion to Part One of the present report, problems may arise concerning the distribution of highly qualified manpower between teaching and other sectors(1). Current experiments in individualized teaching, together with the extension of school attendance at all levels and the creation of new types of teaching, will still further increase the demand for teachers. The new openings available in the tertiary sector - vocational guidance, leisure activities and cultural leadership, etc. - can be filled only if educators or individuals who might have gone into teaching are capable of discovering the importance and interest of these new sectors.

The conclusions of a methodological study of Norway(2) indicate that the only solution is "to look for means of improving the quality of education other than just recruiting more and more teachers... (since) it is extremely difficult to see what other means the educational sector can use to break this vicious circle than those used in other sectors, that is, by increasing other inputs as a substitute for human labour". Empirical research has shown that the theory that teaching improves when there is a fall in the number of pupils per teacher is not always true. Some highly qualified teachers can obtain excellent results with very large classes, although it has been noted that an average teacher no longer obtains the best possible results when he has more than 25 to 30 pupils in his class(3).

It is also interesting to note that some experiments in adult education, outside the traditional system, have enabled progress to be made in the use of new teaching techniques and methods. Perhaps the progress made in this field could be suitably adapted and applied to formal education.

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(1) One possible argument in favour of substituting capital for labour must be disregarded for the time being: namely in view of the large share of teachers' salaries in total educational expenditure, substitution measures may have a beneficial effect on the budget. It is still too early to tell whether research and development in this sphere and the manufacture, distribution and large-scale use of the various types of equipment (thanks to a new type of auxiliary staff introduced into a new teaching hierarchy) would make it possible to reduce educational expenditure. Even supposing that current expenditure on staff could be reduced, would there not be a corresponding increase in current expenditure on maintenance and in capital expenditure on equipment?

(2) A Case Study in the Application of Teacher Demand and Supply Models in Norway, in "Statistical data" - Study on teachers - OECD, Paris, 1969.

(3) Svennilson, Edding and Elvin: "Educational Objectives in Europe for 1970", Policy Conference on Economic Growth and Investment in Education, OECD, Paris 1962.

It is still uncertain what the real results of using new methods and techniques will be as some of these (projectors, radio, television, records, films, etc.) have either been inserted into teaching, whose content and style have not changed, or have simply been tacked on. Experience, for example, of the complete integration of the action of highly qualified teachers, of less qualified assistants, of new techniques and of various groups of pupils is still limited. It is even doubtful whether any economy of teacher/hours will really be possible. In other sectors, such as medicine, where the role of highly skilled manpower is fundamental, the demand for doctors has hardly fallen at all. The rationalisation of work through a better division of labour and the use of increasingly elaborate techniques has in fact meant an increase in each person's tasks as progress continues. Problems such as these may perhaps be solved, after more thorough investigation, as research develops in the future.

Research and development in education and dissemination of the results

Since it is necessary to make the educational system more effective and also possibly to slow down the growing rate of teacher demand to meet that of specialists needed in other branches of activity, the educational system may be said to be facing much the same problems as the various sectors faced when industrial civilisation was developing. Industry and agriculture had constantly to improve their productivity and were able to do so only by promoting fundamental and applied research. This assumes a field of action and new methods for the wide dissemination and application of results.

Research and development facilities

In view of its essential part in the development of society, the growth of education can no longer be left to chance. In the different nations an increasing number of planning devices are being used to forecast and influence educational trends.

So far; however, planning has been largely quantitative, in that attention has been paid to the number and kind of educational institutions required, and to the material and human resources they need to function. Quantitative planning of this type should normally be supported by research into the qualitative aspects of education. Actually, this sort of research depends to a large extent on the amount of information available.

So long as individualized data cannot be supplied concerning the main characteristics of the flow of teachers, the authorities will find it difficult to devise any clear cut policy or to engage in any exhaustive research. An even more delicate problem for the teacher is that he now finds himself at the point where quantitative and qualitative problems converge. For this reason, his greater efficiency must depend on qualitative planning and the attendant type of research. While quantitative planning and research have progressed during recent years, this is not true for qualitative planning and research. In many countries pedagogical research is still in the form of isolated small-scale projects.

As pointed out in the AERA(1) (United States information bulletin of October 1965) education "remains one of the few areas where the value of research is still debated between administrators and practiioners". Thus, in comparison to other sectors, education lags behind in development matters and continues to make use of obsolete and conventional methods, techniques and rules.

In order to portray the situation accurately, we have been compelled to show: quantitative planning, quantitative research, qualitative planning and qualitative research as four separate points, whereas the actual trend is towards planning and research which combine the quantitative and qualitative factors. Some structural reforms have failed to yield the results expected because either the quantitative or qualitative aspect was given particular attention in educational expansion.

If an increase in the number of pupils enrolled requires a parallel increase in the number of teachers, then the type of teacher needed for this greater number of pupils must be decided. This is also true for curricula and teaching methods or techniques.

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(1) American Educational Research Association.

No longer can "the quantitative and qualitative aspects of educational planning be divorced from each other"(1). Planning must be based on both the aim of the education being provided and on the research and development findings. Although the quantitative and qualitative aspects can be dealt with in separate units, their inter-relationship must be examined at the highest level. Furthermore, if research and development are to be effective, more sophisticated planning methods are needed for quality-oriented research.

Assuming that countries will steadily increase their appropriations for research, a bottleneck is bound to occur as regards human resources. Countries such as Sweden and the United States, which are trying systematically to promote educational research, come up against a shortage of research personnel. This does not mean that such staff is employed elsewhere, but rather that very few have been trained owing to the small number of educational science faculties and educational research institutes and the almost total lack of contact between teachers and research during their training.

The scarcity of research personnel means that research projects must be planned; they should provide answers to the most urgent problems raised by the various reforms introduced with a view either to modifying the aims of education or to educating more children and supplying them with the type of training best suited to their abilities. As pointed out earlier, research to rationalize class work should be undertaken with both pedagogical and more quantitative ends in view, since this may provide an opportunity for finding out how savings in staff can be achieved. Whatever the purpose of the research, directly or indirectly, the teacher should feel that he is concerned and the way in which he understands the results obtained will determine how innovations are disseminated throughout the educational system.

Channels for disseminating research findings

It was noted in some countries that, despite the existence of research institutes studying new teaching methods and techniques, progress in schools has remained slight. The problem of the channels to be used for disseminating research findings and that of the actual adoption of new methods and techniques still remain. The way in which the dissemination of research findings should be organised will depend on the educational system's structure and on the degree to which it is decentralized, for example.

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(1) Modernizing our schools: Curriculum Improvement and Educational Development, OECD, Paris, 1966.

Regional centres might, however, feasibly co-ordinate the activities of research institutes (whether or not located in science faculties) and also of the various establishments providing ordinary teacher training and refresher courses while themselves devoting part of their time to research. These centres might serve as the connecting agency for the institutions in a particular academic district. A national planning agency would instigate and co-ordinate any projects undertaken, and arrange for the various regional centres to compare their experiences regularly, and for the findings obtained to be diffused.

A better diffusion of research findings can be achieved through a system of information; this requires the participation of teachers and headmasters and also considerable initiative on the part of school inspectors.

The teacher's part in introducing innovation is very important. It is, finally, he who will have the task of co-ordinating and implementing new methods and techniques. He may discover their value during either his initial training or his subsequent refresher courses either by being shown how to use them or by carrying out research himself. This will make him all the more willing to apply them in the classroom. In England and Wales, for example, teachers work in association with such bodies as the Council for Education, the Nuffield Foundation or the Reading Research Unit of the London Institute of Education. They test new curricula and new methods and techniques resulting from research actually being carried out, and also any work being done on educational expansion. Some teachers, as members of the National Committee for the Employment of Audio-Visual Aids in Teaching, are advisers on subjects to be tackled, and on their content. Others take an active part in preparing and producing programmes for school radio and television. Teachers inform the programme preparation committees of the results obtained in the classrooms. Although this is not an isolated example, there is still a long way to go in many countries before a structure is set up to make possible the testing, diffusing and utilizing of the new techniques and methods of teaching as rapidly as the latter make their appearance. It seems, then, that the teacher's statute, and the image society has of him, could not fail to benefit if his work, which has been termed "artisanal" were to be changed. In the words of the British Secretary of State in 1966, the teacher should become a real manager responsible for a team capable of mastering the technical revolution overtaking education. It should be emphasized that this new socio-economic statute of the teacher, which may ensue from a radical reform of his role and functions in society, is closely linked with his pur purely professional status. For you can master only what you know and, in this respect, great changes will occur at the level of teacher training, the main lines of which are described in Part Three of this Report.

PART THREE

THE CHANGE IN TEACHER TRAINING STANDARDS

Variations between the demand for and the supply of teachers are not due simply to quantitative causes but, to a far greater extent than in other occupations, to qualitative causes:

- the image which society forms of education is a very important factor whether it is the teacher or his professional life which is being considered;

- the effectiveness and drive of the educational system depend both on the method and content of training, and on the ability of teachers to accept innovation.

The various studies on which this work is based show that the effect of qualitative factors should be given greater consideration in the study of recruitment problems.

In most countries the changes resulting from educational reforms have modified the objectives and the very nature of the traditional organisation of schools. The teacher's role becomes changed, without he himself always being conscious of this, so that it is his training which mist be oriented in line with the new duties and responsibilities awaiting him under an educational system which leans towards individualization and under which the organisation of the work inside the schools will be considerably changed.

The components of teacher training will change in line with the reforms and will affect general culture, specialized courses pedagogical training and, if necessary, practical experience.

The object of this report is not simply to make a detailed examination of the structure and curriculum of each different type of training. Solutions which appear to be best in one country are rarely transferable "en bloc" to another. Considerable prudence must therefore be shown when drawing a comparison between national systems of teacher training.

Since the problems to be solved are very similar, however, and as many countries react to them in the same way, the points of similarity have been noted:

- primarily, these concern the new principles on which training curricula will be based;

- secondly, they concern the means used to improve the expansion and harmonisation of the various components of the basic training of each broad category of teachers;

- thirdly, they concern the expansion of the teacher's further education which appears to be one of the essential aims of any future school organisation.

CHAPTER I

NEW PRINCIPLES GUIDING THE TRAINING PROGRAMMES

The broad lines of the teaching reforms recently introduced in OECD Member countries have been outlined in the first part of this report. The changes introduced have generally altered the aims and nature of the traditional system of education. It is logical that the role of the teacher should change and, in line with what the Swedes are asking for, the teacher should be given training suitable for the new tasks and aims laid down in the reform. In many countries this reform is based on the individualization of education. Teacher training will therefore also change.

1. The Teacher's New Role

(a) At school: he will be a group leader

The changes taking place derive from the realization that schools are no longer able to provide pupils with more than part of the knowledge they will need during their working lives. The schools must therefore teach them methods and techniques that will enable them to acquire knowledge for themselves, to sift the mass of information available, and to continue their education after they leave school. The pupil must therefore learn to think and act independently. This trend will have repercussions on the teacher's work, which will be less concerned with imparting his own knowledge than with explaining to his pupils how to get information, to observe, to express themselves and to acquire method.

Under conventional systems the teacher instructs all the pupils of a class in the same subject-matter at the same time and in the same way. The Swedes are convinced that the teacher will need to "create the best possible conditions for effective action on the part of the pupils, watch over and guide them for the whole period they are at school".

"His task will be that of a group leader. He must create the sort of situation for his pupils in which they will be stimulated to learn; he must give them advice. In collaboration with other teachers, he must see that all the pupils, as far as their avility permits, attain the aims set by education."(1) In fact he will have to "teach how to learn". Classes should accordingly be organised to "take into consideration the wide variety in the ability and interest of the pupils".

In France, the Minister of Education, when expressing his ideas on the role of the teacher, said: "Above all we should like him to be, and want to be, an initiator, a group leader and a trainer".(2) The style and attitudes which the teacher training system is to develop are of special importance, as stressed by the Swedish teacher training commission. This training should develop an interest in the individual pupil and his development but, to ensure that he is able to receive an education which is constantly adapted to his needs, teacher training should be frequently examined and adjusted, and train teachers who are anxious periodically to review their role in the educational process. It is therefore considered, in Sweden, that teacher training should ultimately be one of the factors which help to change school structures and syllabuses.

(b) Outside the school: as group leader for refresher courses

Paradoxically, for certain categories of teachers, this role of group leader which is now expected of him in the class is already assumed by a number of teachers outside school.

One of the main differences between primary and secondary school teachers is the latter's limited social leadership in the development of some communities. In the industrialized countries during the nineteenth and early twentieth centuries, just as in the developing countries today, primary teachers did not confine their activities to the classroom; this has not always been true for teachers at secondary level.

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(1) The Research Planning Bureau in the Swedish National Board of Education, Nils-Eric Svensen and Eskil Bjorklund, (mimeographed), OECD, Paris, 1966.

(2) Le Monde, 31st March-1st April, 1968.

Even today, it is impressive to note how much is expected of rural primary teachers in Greece or Turkey, not to mention the task awaiting such people in Asia, Africa and Latin America. For many years the primary teacher was apt to be the only "educated" person in his community, and it was he who set up and ran co-operatives, led youth movements, organised literacy campaigns, and sometimes assumed all sorts of other responsibilities, such as that of Town Clerk. In the more highly developed countries, the progress made in school enrolment and in "informal education" has caused some of these tasks to disappear.(1)

Does this mean, just as secondary school teachers have been living for a long time in a "closed world", that almost all primary school teachers, except those in the most inaccessible rural areas, will be condemned because of the expansion of education to play a smaller part in the development of the community?

Does this however mean that educational development has relegated primary teachers, with the possible exception of those in the most backward rural areas, to a less significant role in the development of the community outside the classroom, and to the sort of isolation that has long been the lot of secondary teachers? Current trends in the most highly developed societies indicate that, in addition to "teaching pupils to learn" in a new context and with the aid of new materials, teachers at whatever level will find their role of group leader outside the school considerably strengthened.

The development of continuing education demanded from all sides and the need for a greater number of "cultural leaders" in a society where leisure activities will be increasingly important, to cite only two examples, will cause new appeals to be made to teachers. Persons who leave school should therefore have been given a less encyclo aedic but more formative education, to prepare them, in particular, to cope with the vast flow of cultural and non-cultural information with which they will be faced. Some years later a teacher may thus meet his pupils again, participating in outside activities of which he is a leader, on a part-time basis outside his school work or on a full-time basis after transferring with the benefit of his teaching experience, to this sector in full development. These new activities may also be developed within the school itself, for it provides the local community with particularly valuable material and human resources suitable for the setting up of a permanent centre of culture and development.

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(1) "L'école parallèle", G. Friedman, Le Monde, 7, 8, 11, 12 janvier 1966.

2. Development of Teacher Training Curricula

(a) Initiation into the teacher's new work plan - explanation of the reform

An attempt has already been made, following surveys which unfortunately have been too few in number, to analyse the reactions of teachers to projected transformations. Receptiveness to innovation appears to vary according to the category of teacher. In the Netherlands(1) in particular, it was apparently the associations of secondary teachers which were found to have the most conservative attitude towards reform.

These teachers, it seems, fear that innovations will result in a "lowering of the standard" of education and thus cause their own status to decline. For the same reason they also oppose the promotion of less-qualified teachers to their own level. As a rule primary teachers are more receptive to reforms, although it is true that these usually affect secondary education.

These scattered impressions are borne out by a Swedish survey(2) on the attitudes of prospective teachers at the end of their training. On the premise that a favourable attitude toward reform and an understanding of its implications would help teachers considerably in their work, the survey showed that those who would be teaching specialized subjects at upper comprehensive school level (lower secondary education) were much more opposed to reform than those planning to teach subjects in the middle section (primary education).

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(1) "The Attitudes of Teachers Towards their Profession in the Netherlands", H.W.F. Stellwag, The Year Book of Education, 1963.

(2) "The Attitudes of Intending Teachers to School Reform in Sweden", S. Marklund, The Education and Training of Teachers, The Year Book of Education, 1963.

Although the replies of the first group indirectly reflect changes which will closely affect its own working conditions (whereas few changes will occur for the second group), there is a definite correlation between information and attitude, particularly noticeable for teachers of specialised subjects.

The results of the survey show that the prospective teachers who are best informed concerning the reform are the ones most inclined to support it. The Swedish survey brought out that graduates from the new training institutes, set up under the reform, had a better knowledge of the new aims of education than graduates of traditional institutions. Thus, the Commission on the reform of teacher training, in Sweden, has decided that one of the aims of training should be to explain the ideological significance of the reform, the meaning behind the work done at school, and the principles which should guide the educational process.

(b) Development of sociology courses and introduction to the planning of educational growth

Various strata of pupils, with backgrounds different from those normally attending secondary school, are being increasingly admitted to the latter. Even if we leave out the supposition of a complete reform of the school system, and consider only the consequences of broadening access to traditional secondary education, we find there is some uneasiness among teachers.

Until quite recently, teachers and pupils in secondary schools shared a common language and common cultural values, because the teachers came from much the same social groups as their pupils. Even assuming that some teachers of more modest origin managed to get promoted to posts in secondary schools, they were cast in a mould which made them adopt the attitudes prevailing in this professional environment. The discrepancy, now widening from year to year, between the attitudes and motivations of the teachers and those of pupils from social strata not formerly represented in secondary education means that the teachers begin to feel that they are not properly adapted. This sort of feeling is due to the lack of preparation for social change.

In Italy, for example, at middle level, with the increasingly wide social range, it is found that some pupils still speak a local dialect, or Italian were different from that taught in school, and that some are unfamiliar with the written word. But, as stated in a recent report(1) "many teachers (whose professional training is based on tradition and their personal experience) continue to regard schooling in terms of selection.."

It appears increasingly necessary therefore that the teacher's training should be in line with the type of pupil he will have to teach. Up to now, he has been very little informed of the school's role in the development of the community or of the consequences this will have for his teaching. At times, the reaction of some teachers has been hostile when the question of the relationship between development - in particular economic development - and the school is broached. They fear their teaching may have to be directed towards utilitarian ends. Educational reforms, however, lay increasing stress on a knowledge of the pupils' backgrounds and of day-to-day life. This is also a means of revealing the aptitudes of certain pupils. A training in sociology is, in fact, required including practical and research work on the school and its environment, possibly completed by training courses in different organisations, firms or social institutes.

Thus, in France, in the training of teachers for transitional and practical terminal classes (lower secondary education), considerable stress is laid on sociology; this is an important innovation in teacher training in this country. It is thought that teachers will become more aware of their role and of the importance of teaching in society and, as a result, will be in a position to accept all the consequences this may have for them if they know something about the planning of educational growth.

Such courses are now given in some United States universities. At present, they primarily concern future administrators of education. Their extension, at first on an optional basis, to future teachers would also have the advantage of making teachers familiar with the problems raised by administering the means made available to education.

(c) Control of new methods of job organisation

A preliminary condition: further emphasis on psychology studies

Within the new framework of his activities, the teacher will find himself closer to his pupil than before. Thus in Yugoslavia stress has been laid on the need for a thorough knowledge of the process of acquiring knowledge. The Commission on teacher training in Sweden has recalled that training should emphasize personality and the psychological aspects in the development of the individual, so that the teacher will be able to discern the different capacities of the pupil for school work. Psychology studies will therefore be of major importance in the curriculum for student teachers, particularly in the form of research and experiments concerning the different psychological factors which influence the process of acquiring knowledge. Thus, the teacher will be able to assess his pupil's progress, and results and surveys concerning the level of their aptitudes will become more frequent. An introduction to these special techniques should be included in training courses. It is pointed out in Yugoslavia that, in order to follow the pupil's progress, the teacher should be able to prepare and conduct tests and questionnaires. He is then in a better position to know what are the most appropriate teaching methods and techniques to use in view of his pupils' abilities.

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(1) Reviews of National Policies for Education: Italy, OECD, Paris, 1969.

Knowledge of new teaching aids

It has been observed that the teaching profession, taken as a group, is among those least capable of using modern material. Some technical aids directly meet essential needs - whether to bring out a pupil's aptitudes so as to encourage him in his school work, or to help him find his own pace for acquiring certain types of knowledge. In Yugoslavia, reference is made to the example of programmed learning: the progress made in cybernetics makes the principle of individualised teaching easier to apply. The primary teacher, as well as the secondary teacher, still has no clear idea of the important part he himself will have to play in the extensive application of the new techniques available (audio-visual methods, programmed learning, etc...).

Some types of technical aids, however, e.g. films, slides, records and tape recordings, have been more easily adopted in schools than others such as language laboratories, closed circuit television or programmed learning.

There are various reasons for this: technical equipment is more acceptable to the teachers when they regard it as supplementing their own teaching. This happens if, during their training, they are taught how to handle it. Thus, in Austria, the teachers have to pass a compulsory examination on the utilisation of educational films.

Surveys in the Netherlands(1) have shown the interest felt by some teachers in the development of methods for teaching specialisations. Teachers of mathematics and the natural sciences seem more aware of the need to adapt these subjects to the new demands of society, for they realise that stagnation in this area can indirectly and adversely affect their own status.

This is not true of the other set of teaching aids, which are more technologically complex and for which teachers have received little training. Teachers who have not been taught how to handle these new techniques are afraid of competition from them, and that their authority will suffer as a result. They consider them more in the light of substitutes than of supplements. In the Netherlands, some resistance on the part of the teachers has been observed to the introduction of school television. They think their position, both in the class-room and on the labour market, is threatened. They are afraid that they may be reduced to the state of mere "educational technicians".

The contradictions contained in these attitudes, and the ignorance of the real situation facing the teacher, must be pointed out. The reforms needed, particularly in secondary education, can be successful only if accompanied by changes in teaching methods and techniques adapted according to each subject.

But the aim of such innovations is more than just to improve the teaching of some subjects for its own sake; they are part of a wider effort to introduce techniques that may be more meaningful to new pupils from other cultural backgrounds. Lacking any broad explanation of the need or significance of the reforms to be carried out, some types of teachers apparently fail to see the relationship between these reforms and various basic means for umplementing them. The number of teaching aids is growing considerably; these are no longer considered as a supplement, but are being associated to an increasing extent with the educational process. If the teacher is to use and choose them discerningly, he must be taught how to handle them during his training in such a way that it will be possible for teams of teachers to use them in the future.

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(1) "The Attitudes of Teachers Towards their Profession in the Netherlands", H.W.F. Stellwag, The Year Book of Education, 1963.

Introduction to team work

Traditional school organisation encourages the isolation of the teacher; the latter is not naturally close to the pupil and there is no co-ordination of work among the various categories of teachers. The need to organise an efficient educational system, using all the techniques and methods available, should lead to educational team work where the different functions will appear which will modify the traditional profile of the teacher. The teacher's relations with the other members of the school will start to develop. The division of responsibilities, having regard to interest, aptitudes and individual training will lead the teacher to develop horizontal or vertical relations with his colleagues, for instance in the distribution of work in a specialised department. He will have close working relations with the auxiliary personnel who will relieve him of certain administrative tasks (for instance rating) or preparatory work for teaching (practical work of all kinds). He will also be in constant touch with other specialized workers (educational psychologists, librarians, documentalists, etc...). Finally, he must be in constant communication with the pupil's family. One cannot become a "co-operative" member of a group without being accustomed as from the period of training to co-operate and discuss as members of a team.

A necessity: the preparation of a plan of work

Teachers will therefore have a very important part to play in the application of the new teaching techniques. To an increasing extent it will be the teacher's job to co-ordinate the resources assigned to education. Discussions will take place - far more often than they used to - between pupils and teachers on subjects prepared by the teacher or by a team of teachers. The most favourable working conditions possible should be created for the pupils. The teacher will therefore spend more time than formerly on preparing and planning his work. Part of the time he now works in the classroom will be freed, thanks to the new techniques and to the improved organisation of the work, he will therefore have to learn to prepare his teaching rationally during his training with the new means at his disposal. For instance he will be able to arrange, according to the objective in view, either for a course for a large number of pupils with the help of audio-visual media, a seminar for discussion for about ten pupils, work in a small group (2 to 5 pupils) or individual work for the pupils. It is above all in practical training courses that the student teacher can judge the importance of this preparatory work and become familiar with it.

3. Other Special Training Features

In teacher training, the various factors analysed above concern educational training. Other factors will tend to orient the teacher towards his new role while encouraging the pedagogic development of training. Thus, the desire expressed in many countries for future teachers to be recruited only after secondary school, and for specialised courses to be offered to more students, may encourage the study of educational problems in greater detail. The selection of student-teachers may be improved if, while still in secondary school (and also later), pupils become familiar with subjects or activities to which they might be attracted and in line with their aptitudes. Acceptance of innovations is facilitated for these better selected student teachers if they are in contact with applied research during their training. Finally, these changes cannot be applied or the success of the reforms ensured unless training for the various categories of teachers is made more uniform and vocational training extended throughout the whole of working life.

(a) New possibilities for the selection of student teachers

Student teacher training may be favourably influenced by the content, spirit and teaching methods at both secondary and higher levels, and also by various extra mural activities - factors which may also bring out the student teacher's aptitudes. In Belgium, it is planned to set up a section of human sciences at secondary level where subjects such as economics, sociology, the history of science and techniques, and group dynamics will be studied.

In view of the growing importance of the fine arts as an indicator of the aptitudes of students, the development of these courses might also be a factor which would encourage students to take up teaching. Thus Austria has converted its former teacher training colleges (secondary level) into secondary schools where artistic and manual work play a major part. In France an "arts" option has recently been created in upper general secondary education. The actual working methods in secondary and higher education may also encourage the recruitment and training of new teachers. Thus the more team work has been developed while he was at school the less difficulty the student-teacher will have to get to know, and then to become interested in group teaching and the collective formulation of tasks within the school.

Finally, the attributes of leadership which can be brought out by this group work may also find expression in organised youth activities, either inside, or in conjunction with the school (e.g. youth movements and holiday camps). This implies that the school does not confine its activities to educational work, that it becomes a pole of attraction for extra mural activities of interest to the community, and provides an opportunity for the students to learn to shoulder responsibility.

(b) Receptiveness to innovation and contact with applied research

The teacher's reticence towards change is sometime due to the new methods of organising class work required by education's new aims. He fears that, from a psychological point of view, the balance he has managed to achieve between the class and himself may be upset. The innovations mean freedom for the students, and the teacher has to become increasingly a part of the team. He finds it hard to determine the new balance which can be achieved in the changed circumstances.

In the past, the teacher-to-be has rarely had an introduction to educational research and development work. If teachers are to take an interest, for example in improving the curricula and to take an active part in arranging them, some research work during their training should supplement the information supplied concerning the place, content and spirit of the school curricula in the educational system. Thus, in the United States, the "Panel on Educational Research and Development", in its March 1964 Report, recommended the setting up of "special curriculum units in practice-teaching sessions ... (to get) ... prospective teachers themselves involved in the process of curriculum development". The Report stressed that "in the in-service education of teachers, reliance upon research and development is doubly necessary(1).

This trend implies that in an creasingly important place is being given to educational research. An introduction to research in other fields (environment, structures, educational planning, new educational methods and techniques, analysis of pupil attainment and psychological variables likely to influence them, etc.) might lead the teacher to participate in studies and surveys on either a full-time basis (seconded or during a refresher course), or as correspondent of a research centre. If the gap were to be bridged between training and research, these teachers would find it easier to assemble "on the spot" data, to realize their implications and if necessary to apply the results by relating them to every-day practice. This contact with research during the training period should help teachers towards a better understanding of what is expected of them under the new reforms. It is on these lines that one of the aims of the present training reform in Sweden mught be attained: to establish close contact between scientific development and training which would lead the teacher not only to want but to be able to make a constant reassessment of education, to correct and improve himself, and to judge the value of certain innovations. The training received by the teacher should therefore enable him to analyse his own situation for experimental purposes; if he is able to master the situation in which he finds himself and in which he acts it is thought he will agree more easily to be an innovator.

(c) Greater uniformity of training; relations existing among teachers

The teacher's new role will call for continuing discussion and confrontation among the teachers of the various levels and subjects; this will be of benefit both to the pupil, as he advances through the school, and to the efficiency and continued improvement of education.

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(1) Quotations taken from the OECD publication: Curriculum Improvement and Educational Development - Modernizing our Schools, Paris, 1966.

Up to now contact between the various categories of teachers has sometimes been difficult as a result of the differences in recruiting conditions. Greater uniformity of training standards might help to break down the barriers between the various categories of teachers as would also their closer integration into group teaching. If we consider the three broad components of teacher training (general education, specialised subjects, pedagogics) we find that many countries will adopt (or are adopting) the following principles:

- recruitment of all student-teachers on termination of secondary training;
- development of specialised courses for all categories of teachers;
- broadening of pedagogical training.

It is logical that specialised subjects and their teaching, coming within the scope of pedagogical training, should be distinguished according to the standard of the pupils concerned. Nevertheless, it seems increasingly desirable that the various elements of training considered in the above paragraphs should be available to all teachers whatever their specialisation. This common basic training might help to strengthen co-ordination among the different teachers and therefore ensure that the various educational levels are better integrated into primary and secondary education.

(d) Harmonization of initial vocational training and further education training

If, in view of the changes taking place in the subject matter, the teacher's new role consists in teaching how to learn rather than details of the subject, it would seem that his own training should be less factual than in the past. Even if the future teacher undergoes a university training over a long period, in the course of his career he will have to keep his knowledge up to date. Thus, as pointed out, in Sweden the (initial) training of teachers is the first stage of a professional career, i.e. this training will have to spread to an increasing extent over his entire working life. Training curricula will therefore have to be so planned as to encourage the development of further education. It would also be an advantage to re-assess the essence and content of excessively long training.

The number of new teachers to become available each year might be increased to make it easier for some of their colleagues to take sabbatial leave in the way of further education. In future, the teacher's status and prestige will not be assessed so much in terms of the indefinite extension of his training, but rather of the balancing of the length and subject-matter of his initial and subsequent training in such a way that the teacher can keep his knowledge up to date and be aware of the latest innovations and promote their use. This aspect has not been very thoroughly, and detailed research should be undertaken.

(e) New organisation of the work in training institutes

Teacher training will affect even the organisation of the student teacher's work in the Institute. This work should be carried out in an atmosphere similar to that which the future teacher will subsequently have to create, with his colleagues, in the school to which he is appointed. The relations between student teachers and their professors will be a foretaste of the future relations between those teaching and those taught, and the observance and progressive guidance of the pupils, taken individually, will be of fundamental importance. Apprenticeship in accepting responsibility and participation inside the training establishment may encourage the training of teachers capable of coming to a decision on their own, or jointly with their colleagues, when faced with changed circumstances at school.

The student teacher, along with his companions, should also be given the opportunity of considering the structure and organisation of the training institute, the timetable curricula, knowledge tests, discipline, etc., and to participate in setting them up and improving them.

In addition, the student teacher's training curriculum will increasingly depend on the plans he personally has decided on for his work and activities. This implies that individual work will be very important and that the supervision provided for the small groups will allow a check to be kept on their progress, advice to be given, and group work and reflection to be encouraged.

The student teacher may progressively be introduced to actual teaching in schools. As his theoretical and practical knowledge increases, he should gradually take over until he becomes entirely responsible for his teaching.

It seems therefore that the organisation and functioning of the training institutes should be such as to create a real "need to teach" among students - the first condition of a full professional competence.

(f) Innovations and status of teachers

"Education is capable of progressing indefinitely, each improvement being the point of departure for the next. The most difficult obstacles to overcome are perhaps our habits, our customs and our faithfulness to things which are familiar to us."(1)

If the teacher continues to feel that the change is against his interests in matters of promotion, security and freedom in his profession, few changes can be introduced into the educational system. "Educators in all the Member countries must uninterruptedly study the methods, the efficiency and the results of teaching, so as to improve both the curriculum content and the quality of instruction."(1) Initial and further training will provide a golden opportunity to attain the above-mentioned objective and to show in a practical way that if teaching becomes more professionalized it cannot fail to raise the prestige of the teacher's job.

Need for a study of the trend in training standards by broad category of teacher

The few major principles for teacher training which seem to emerge from the teacher's new role have led to a far-reaching change in the training standards of the various teacher categories. There would have been some mental satisfaction in being able to present these changes, in studying how each of the components of teacher training (general education, specialised subjects and pedagogical training) has developed in order to satisfy the new requirements of school organisation. In reality, the three broad teacher categories under consideration (future teachers in primary, general secondary, and technical secondary education) covered training standards which were originally so varied that it has not been possible to leave them out of consideration. Each one of them, in order to get closer to the training ideal required by the changes taking place in education, has had to take different action in relation to various initial training factors. It is by examining in turn the changes in each of these categories that policies seeking to bring training standards into line with the broad principles which will henceforth govern teacher training, will emerge. For each of the categories of teachers, two elements have been retained:

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(1) Curriculum Improvement and Educational Development, OECD, Paris, 1966.

- the development and harmonization of the various components of training;
- the framework, i.e. the length and level of training.

The development of this framework is apparent in many countries, not only as the first condition of any changes but also as a factor influencing the conditions of recruitment: it determines society's image of the teacher as much as the actual content of his initial training. This is why the different trends recorded in this sector will be carefully analysed

CHAPTER II

TRENDS IN STANDARDS OF INITIAL TRAINING FOR PRIMARY TEACHERS

In many countries primary teacher training courses no longer correspond to the new role now assigned to the entire teaching body. The existing heterogeneous character of training and recruitment has been recognised as a handicap which must be overcome.

There is a keener awareness of the fact that the general education acquired by the teacher is a component part of his vocational training and that specialized courses can help or increase his efficiency. Only by changing the length of training could greater stress be given to some components of training, those which were lacking be introduced, and harmonization be achieved. This overall extension of the period of training courses has raised the problem of the level for recruiting future teachers into specialized training institutions. The role and status of the latter in the educational system has thus had to undergo a change. For this reason before examining the question of harmonizing the various components of training it would be better to describe the framework in which it can be done.

1. Changes in Length and Level of Training

Recent or proposed changes in the length of primary-teacher training are shown in Diagrams 2 and 3. In any comparison of trends, differences in the age for beginning or the length of secondary education must be taken into account. The trends recorded for the different countries will provide this information.

(a) Extension of training parallel to general secondary education

Two Mediterranean Regional Project countries (Italy and Turkey) propose to extend the training of primary teachers by one year. These plans are now being examined by the national authorities. In both instances the type of training parallels that of secondary education.

In Italy the training college for primary teachers may be regarded as a branch of upper secondary education. The primary-teacher training course would thus be increased from 4 to 5 years (following lower secondary school), and be brought into line with the classical modern and technical courses in upper-secondary schools. As the first two years of upper secondary school would be more or less the same in all four types of secondary education, it may be hoped that student-teachers admitted at the age of 14 would be joined by those who enter teacher training at 16.

In Turkey, the proposed extension of one year to training applies to the two types of course which now exist: 6 years in rural areas - admission on completion of primary school - 3 years in urban areas - admission on completion of lower secondary school. The increase in the length of the course should bring future primary teachers up to about the same level of general education as that of the general secondary schools (lower secondary: 3 years; upper secondary: 3 years).

This is, in fact, no more than an extension of the course in line with secondary education(1).

(b) Extension of training and recruitment at two levels

In some countries it has proved difficult to eliminate immediately the advance recruitment of student teachers on leaving lower secondary or short modern secondary school, although there was a desire that the basic part of the future primary teacher's professional training should be at advanced (non-university) level. The teachers' college is therefore split up into a lower

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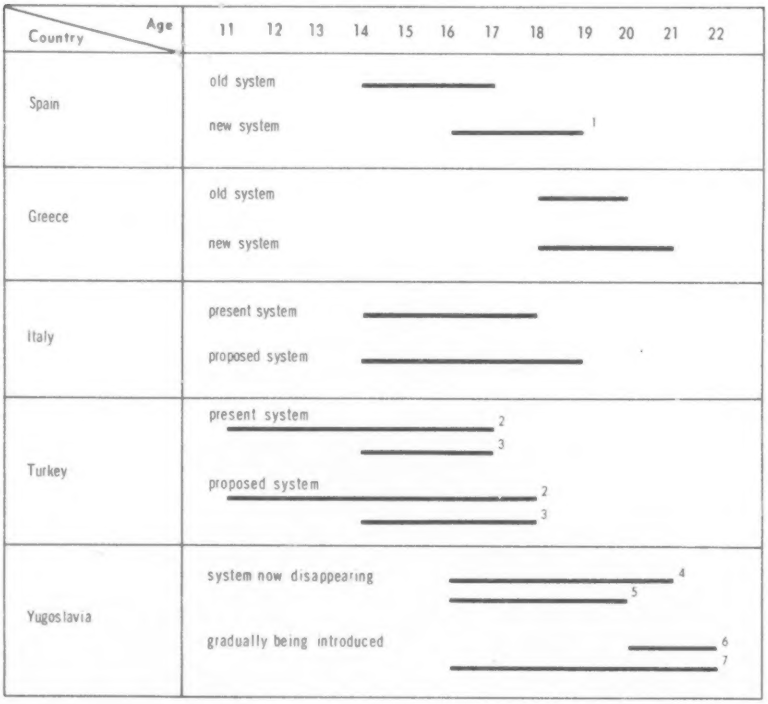
(1) In Switzerland, student teachers, in some usually rural cantons, on completing lower secondary school (at 15 or 16) take a four-year course parallel to upper secondary school; there is a tendency to introduce a fifth year. In Portugal, after completing upper secondary education at age 16, at least, student teachers enter the training college for a two-year course, that is, the same length as the advanced secondary school course.

Diagram 2

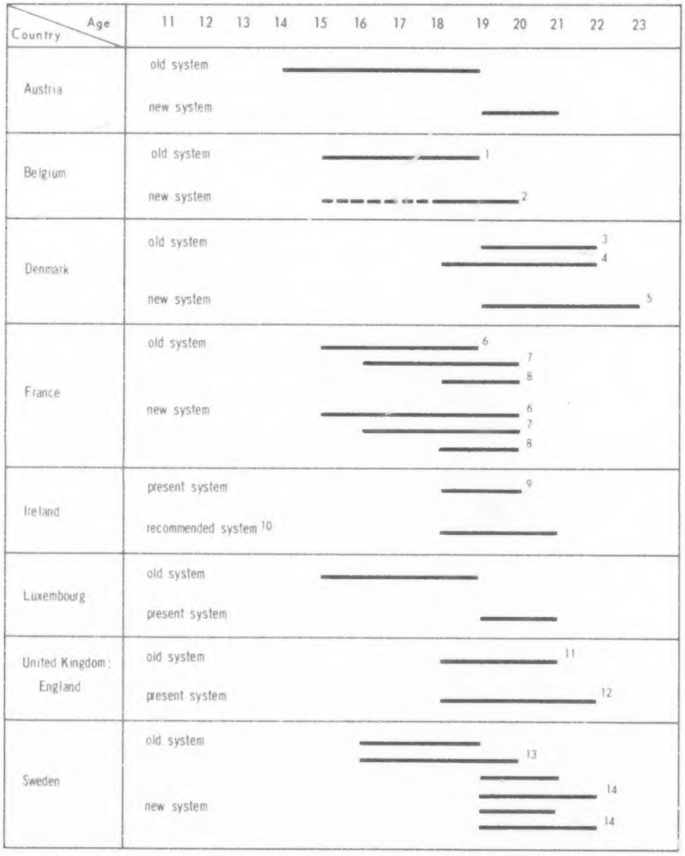
RECENT OR PROPOSED CHANGES IN THE LENGTH OF THE PRIMARY TEACHER'S TRAINING IN FIVE MEDITERRANEAN REGIONAL PROJECT COUNTRIES



1. Including an 8-month practical course.
2. Rural zones.
3. Urban zones.
4. Serbia, Slovenia, Croatia, Montenegro.
5. Macedonia, Bosnia, Herzegovina.
6. "Pedagogical Academies" training non-specialized and specialized teachers for eight-year compulsory schools.
7. Montenegro only; the curriculum for the first four years is the same as that for secondary schools; and for the two final years the same as for the two-year course in the advanced teacher training college; secondary school leaving certificate holders may directly enter the 5th year.

Diagram 3

RECENT OR PROPOSED CHANGES IN THE LENGTH
OF THE PRIMARY TEACHER'S TRAINING IN SEVEN EUROPEAN COUNTRIES



1. There used to be an experimental one-year course for secondary school leaving certificate holders.
2. The teacher-to-be may either take a first three-year course offering subjects to develop the means of expression, to obtain the secondary school leaving certificate, or, if he already holds the secondary school leaving certificate, enter directly the second two-year course.
3. Holders of the secondary school leaving certificate.
4. Candidates aged at least 18, who pass an entrance examination.
5. For the most part, holders of the secondary school leaving certificate; as for 3 and 4 above, the teachers take both upper classes in primary school and classes in the middle (real) school.
6. Candidates admitted at the end of lower secondary school.
7. Candidates admitted at the end of the first year of upper secondary school.
8. Candidates admitted at the end of secondary school.
9. Candidates holding a university degree may be excused a year of the course.
10. Recommendation of the Commission of Higher Education.
11. Training in teacher-training schools for teachers in both primary and secondary schools.
12. Some teacher training schools offer a four-year course.
13. Candidates admitted at the end of lower secondary school.
14. Candidates holding the secondary school leaving certificate.

section offering general education at secondary level, and an upper section providing more specialised training in pedagogics, to which holders of the secondary-school leaving certificate are directly admissible.

Present trends

Among the Mediterranean countries, this system is found in Montenegro, one of the Yugoslav Federated Republics. In 1964/65 the 5-year primary teachers' college (secondary level) was replaced by a new 6-year "pedagogical academy", the first four years of which follow the secondary school curriculum. Holders of the secondary certificate are admitted directly into the fifth year.

In Belgium, training was extended for one year as from 1st September, 1967. On completing lower secondary education candidates for primary teaching can choose one of two alternatives:

- they can sit for the secondary school leaving certificate by taking a three-year course in the teacher training college(1) and then continue with a two-year - mainly pedagogical - course in the upper section;

- or, after obtaining their secondary school leaving certificate from some other establishment, they can be directly admitted to the upper section of the college.

The changes to elementary teachers' colleges now being debated in the Netherlands follow much the same pattern. Direct admission to the second course would be retained for secondary leaving-certificate holders. Under the present system, the certificate at the end of the second course authorizes its holder to teach, but the fully certificated teacher must have taken the third (one-year) course. Both those responsible for teacher training colleges and the teacher associations plead for the uniting of the 2nd and 3rd courses so as to provide everyone with a uniform 3-year course at advanced, non-university level.

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(1) Under the previous system the teacher's diploma, granted after a four-year course, entailed the granting of a secondary school leaving certificate (which required a three-year course in upper secondary school).

In France in the training colleges for primary teachers, there is a first course leading to the secondary school leaving certificate and a second one at advanced non-university level, providing pedagogical training and also open to holders of the secondary school leaving certificate. In 1968/69, the length of pedagogical courses at advanced level was extended from one to two years for all student teachers.

Reasons for maintaining a course of teacher training at secondary level

The reason for maintaining in teacher training colleges a first course providing the same type of education as in general secondary schools is apparently due to the position originally held by such institutions in the educational structure and, of course, to recruitment difficulties from 1950 to 1960.

An effort has been made in student teacher recruitment for access to this type of training to be open to children from lower-income families whose status is similar to that of the pupils who will be entering primary education. Hence recruits have not always come from the traditional streams of secondary education, but from parallel channels offering better primary education, subsequently called secondary modern. Nevertheless, the effect has been to compel the pupil to choose his profession too soon and, where it was desired to give him a similar secondary education to that provided by the traditional schools, to convert the beginning classes of primary teachers' colleges into secondary establishments.

When recruitment problems became acute, student teachers were also recruited from secondary school-leaving certificate holders, (Table 11) thus gradually leading to the introduction of a more advanced course specifically oriented towards a pedagogical type of training(1).

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(1) Thus Norway, Iceland, France and some Swiss cantons recruit secondary school leavers for a two-year course of vocational training (one or two years in Iceland and certain Swiss cantons) and holders of the short-course diploma for a four-year programme (five years in France and some Swiss cantons).

This trend has resulted in a better organisation of the curriculum, allowing the teacher-to-be to acquire a comprehensive formal secondary education, and then to begin his pedagogical training. This is particularly true of the countries which have decided that primary teacher training should rank with higher education, students being recruited upon completion of the secondary courses(1).

(c) Establishment of advanced primary teacher training colleges

The next step, the abandonment of all secondary-level training colleges, has been taken by a number of countries in recent years. The training institution at upper secondary level, or overlapping into advanced level, has been replaced by one recruiting student teachers with a secondary school certificate.

Of the Mediterranean Regional Project countries, Spain, by a decree of 1st June, 1967, thus adopted a new curriculum for primary teacher training colleges. Instead of being recruited at the end of lower secondary education (at age 14) for a three-year course, student teachers will enrol at the end of the upper school (at age 16) for a 3-year course (including eight months of pedagogical training).

In Yugoslavia the former secondary level training courses for primary teachers (four or five years, recruitment at age 16 or thereabouts) were discarded in Montenegro and Macedonia in 1963/64 and in Croatia in 1965/66. They have been replaced by advanced level "pedagogical academies" providing a two-year course (except in Montenegro) to train teachers for strictly primary school level, and for specialized teaching in the upper grades of compulsory eight-year education.

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(1) In 1962, the Austrian Government thus changed the curriculum for the final (fifth) year in primary teacher training colleges, intended for holders of the secondary school-leaving certificate. In Vienna a second year was added. The curriculum is very similar to that proposed for the new primary teacher training colleges at advanced non-university level. The authorities were thus able to test the effectiveness of the system they intended to introduce.

A similar trend may be noted in other countries. As from 1968, in Austria, "pedagogical academies" provide two-year primary teacher training for holders of the secondary school certificate. This new institution thus replaces the former teacher training college, which recruited pupils 14 or 15 years old, on completion of compulsory schooling, and trained them in five years.

In Denmark, as from 1969/70, a renovated type of teacher training college will provide training for both primary and lower secondary school teachers. Only holders of the secondary school leaving certificate will be admitted to courses which, in theory, can be completed in three and a half year, but which in practice will last four years for the majority of the student teachers. Until now training for such certificate holders lasted three years. In addition to this method of recruitment, one also existed for 18-year olds who sat for a more difficult entrance examination than that terminating the short secondary school course (real-examen). A preparatory course for the entrance examination is available for those pupils who have not passed the real-examen, or who obtained an average pass, or who are under 18. For this category of student teacher the curriculum covers four years.

In Luxembourg, up to 1960, the period of training for student teachers was equivalent to that of secondary-school education. They entered the training college after three years of general secondary education for a further four-year course. In 1960 a new establishment known as a "Pedagogical Institute" was opened for student teachers holding the secondary school certificate and provided two years of advanced non-university training.

In Sweden a bill introduced by the Government in January 1967 proposed that student teachers be recruited only among holders of secondary school leaving certificates (the gymnasium, fackskola or equivalent). Future teachers for the lower section of the comprehensive school would have two-and-a-half years training while those for the middle section would have three, provided in advanced non-university establishments. At present, teachers for the lower and middle sections of comprehensive schools are still trained in two types of college. The older type recruits holders of secondary-school leaving certificates for a two-year course and those who have completed the comprehensive school (compulsory up to the age of 15 or 16) for a four- or three-year course. The new "specialized colleges" (there are four now) recruit only those holding the secondary school certificate for a two and a half-year course.

In France, recent statements(1) by different Ministers of Education concerning primary teacher training advise recruitment from holders of the "baccalauréat". A two-year training course would be offered by university institutes which, though not university faculties, would work in close touch with them(2).

In Portugal, projects for structural reforms include "measures designed to upgrade the training of primary teachers to the level of higher education".

In addition to the above-mentioned countries which have decided to set up new types of institutes of higher education (generally at non-university level) for training future primary and lower-secondary teachers, mention should be made of those already offering instruction of this type.

In Canada, four out of the ten provinces (representing slightly more than 50 per cent of the student teachers) offer, according to the level attained by candidates at the end of their secondary schooling, one- or two-year training courses. This training is provided in (non-university) advanced training colleges.

(d) Extension of period of training in advanced level non-university establishments

In Greece the "Pedagogical Academies" (teachers' colleges) previously recruited primary school teachers-to-be from among holders of the general secondary school certificate for a two-year course. Since 1965/66, however, the baccalauréat has been required and the course extended for a further year. In Germany, those Länder which until recently were still offering a two-year course now have a three-year curriculum. In Norway a number of teachers' colleges provide a third year course for those admitted with the secondary school leaving certificate. The usual training period for such students is two years. In England and Wales, where the same colleges train both primary and some secondary teachers, training was extended from 2 to 3 years in 1960.

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(1) Le Monde, 31st March and 1st April, 1968 (Statement by Mr. A. Peyrefitte); Journal Officiel, 26th July, 1968, pp. 2610-2611 (Statement by Mr. E. Faure).

(2) The training now given is described in earlier sections.

Longer training courses and associations with university education

In Ireland the Commission on Higher Education has recommended that the training period for primary teachers be increased from two years to three. The Commission has also proposed that, as part of this reform, the teachers' colleges be associated with the new colleges which the Commission wishes to be set up. The Commission considered that student teachers would then be able to obtain a diploma from these colleges, subsequently permitting them to obtain a full university degree.

In England and Wales the Government has specified that student teachers with the requisite ability should be afforded the opportunity of obtaining a university degree while continuing their training. This measure would at first concern only a minority of the student teachers. The period of combined study is four years. The universities and training colleges are discussing how this reform should be brought about.

In Scotland a new "Bachelor of Education" degree has recently been created. The course lasts four years (three years are required to obtain the teacher-training diploma), training at the college and the university being carried on simultaneously. Holders of the degree are qualified to teach in either primary or secondary schools, or both at the same time.

In some countries the extension to the period of teacher training thus appears to give rise to new types of diploma obtained as a result of closer association between the autonomous teachers' colleges and the universities. This is gradually causing the advanced training colleges to lose their strictly non-university character. Another parallel trend is the wider opportunity for university study made available to those holding teaching certificates.

For example, for the Mediterranean Regional Project countries, in Yugoslavia the new "Pedagogical Academy" diploma entitles the holder either to immediate appointment to a teaching post, or to admission to the third year of the teacher training course at the university.

In Spain the new primary teacher's diploma exempts the holder from the year of so-called "pre-university" training required of secondary school leavers before admission to the university. In Iceland a two-year "university" course is to be instituted at the Teachers' College for holders of the general teacher's certificate. Students who have taken the course may then enter the university.

Among other countries may be mentioned Canada, where in some provinces legislation has promoted the advancement of teachers by means of university credits obtained by the certificate holders of the (non-university) advanced training colleges. These credits make it possible for the student to continue at the university and thus obtain a teaching degree.

To sum up, the vast majority of OECD Member countries, by extending the period of training intended mainly for primary teachers, are tending to provide courses in institutes of higher education. Most are at non-university advanced level, but in several countries more or less close links have been established with the universities. In some other large countries, however, whether throughout the country or only in certain provinces, primary teacher training is already regarded as a part of university education.

(e) University training for primary teachers

In some countries where this kind of training has been provided for some time, two separate types of organisation exist. Under the first, the advanced level teacher training college (or the faculty of education) leads to a Bachelor of Education degree or its equivalent. Under the second, the student teacher begins by obtaining a university degree, and then receives teacher training in a specialized university department or in a teachers' college outside.

Opportunities for training at university level

Thus in Germany, alongside the training provided in most of the Länder by independent advanced teacher training colleges, there is also a structure which directly or indirectly connects primary teacher training with the universities. For some time in Bavaria, advanced-level teacher training colleges, while retaining their autonomous status, have been linked to the Land's universities. In Hesse teachers' colleges have been made a part of the universities. In Hamburg courses are given in the university itself. In 1965, North Rhine-Westphalia combined its fifteen advanced teacher training schools into three independent colleges with university status. After the three years of standard training, a further one-year course allows the student to obtain a university degree in education. In 1967, the Rhineland-Palatinate announced that it intended introducing legislation similar to that in Hamburg.

In Switzerland, where primary teacher training depends on each canton's educational organisation, two towns (Geneva and Basle) grant it university status (three years in Geneva and two in Basle).

In Scotland a university degree may be obtained before taking a one-year course in a teacher-training college.

In England and Wales, a university graduate may optionally take one year of professional training. In Ireland any university graduate wishing to teach in a primary school must first attend a teacher training college for at least a one-year course (instead of the two years required for secondary school leavers).

In Canada, in six out of ten provinces, training for both primary and secondary teachers is provided by the university. The length of the course varies. Primary school teachers may take a (non-degree) course of one or two years, or a 4 or 5-year course terminating in an education degree (B.Ed.).

In the United States many liberal colleges were originally teacher training colleges which gradually added other subjects to their specialised training. Almost all States require primary teachers to hold a Bachelor's degree, which is obtained after four years of post-secondary study.

In Japan all primary teachers,and a large proportion of lower-secondary teachers,are trained in Faculties of Education. The course now lasts four years and leads to the B.Ed. It lasted only two years up to a few years ago.

Extension of period of training at university level

The period of primary teacher training at university level is considered too short in most of the countries where it exists. In the United States, for example, the educational authorities increasingly feel that an extra year is required to train primary and secondary teachers. Nearly one-fifth of all elementary school teachers already hold a Master's degree, for which a five-year course is required.

An analysis of the trend of the recruitment level for primary teachers thus indicates that in most countries selection is at the end of secondary education.

2. Opportunities Offered by Changes in the Length of Training and the Level of Recruitment

In many countries structural and content reforms to teacher training have resulted in improved recruitment thanks to changes in the social-professional status and the new, more efficient training possibilities which are offered.

(a) Longer training and recruitment

In the section dealing with particular aspects of teacher recruitment, the importance was stressed of the teacher's image (in his own and other eyes). Compared with other occupations, the teacher's status may have appeared unfavourable, even to the point of hampering recruitment in some cases. The teacher's status and the image one forms of it are a whole and it would be wrong to try to break it down into components. The socio-economic and the professional aspects mutually influence each other. A desire to bolster up the "prestige" of the profession may thus be found among the reasons for extending primary teacher training. This is especially noticeable in such Mediterranean Regional Project countries as Greece and Turkey, where the role of the schoolmaster, particularly in rural areas, continues to be that of a "community leader" and is not confined to the classroom.

In the more developed countries there is a tendency to consider that the shorter the training the more specialised it is likely to be, so that diploma holders have a very limited choice on the employment market, whereas much longer and less specialised training, such as that provided by the university, for example, affords a far wider range of choice, particularly in the cultural and recreational field.

Hence, quite apart from the fact that the choice of such a socially important profession between the ages of 14 and 16 was felt to be premature, the many opportunities for employment within the society encourage the recruitment of primary teachers to take place only after secondary school.

(b) Longer courses for primary teachers and efficiency of training

Improved selection of future student teachers

There is now a widely held opinion that teaching is a profession which must be learned, and that certain specific abilities are required. The implication is that admission to the profession is not always possible. Candidates for other occupations are given tests to determine whether their personalities and inclinations fit them for the daily requirements of the job. In teaching, however, there are a number of problems, since teaching aptitudes are difficult to determine until the individual's personality has sufficiently developed. For actual primary teacher recruitment purposes, it is now recognized that any final selection between 15 and 20 is bound to be difficult, since the candidate's personality continues to develop until he is at least 25. The specialists also point out that aptitude tests are still far from being able to assess the personality traits of the prospective teacher. But with the help of a higher recruitment level (at the end of secondary education) the trend in some countries now is to make allowance for the personality factor by attempting to eliminate the least likely candidates from the outset.

Selection for negative reasons

"Choice for negative reasons" persisted either because the number of secondary school leaving certificate holders made this possible or because other professions recruiting at a high level had already absorbed so many certificated leavers that the remainder were compelled to choose elementary teaching as a last resort without being especially drawn to the profession. In Sweden, Denmark, England, Wales and Ireland, attempts have thus been made to weed out the least satisfactory candidates at the time of admittance to primary teacher-training colleges. In England and Wales an attempt is made to assess the personality of the candidate by means of an interview, or series of interviews, and of an examination of the report from the head of the secondary establishment he attended, describing the part he has played in school activities. In Ireland an interview is used to check the candidate's aptitude, and in Sweden, aptitude tests are given. In Switzerland, the canton of Geneva attempts to assess the capacity of candidates by having them conduct short lessons in class. The attitude, behaviour and reactions of the candidate are carefully noted. The examiners are particularly interested in the way in which he makes contact with the children, retains their interest, asks questions and answers those of the pupils. Recruitment problems in late years have unfortunately compelled the authorities to suspend such aptitude tests. The same applies in the Netherlands and Germany(1). There is an increasingly strong tendency, however, to ensure that the future teacher's personality is suited to the new spirit of teaching. The prior selection of candidates has been encouraged by deferring the training of primary teachers until higher education. Nevertheless, as the tastes and abilities of candidates may still change during their higher education, there is a risk of turning away young people who might later prove to be quite able teachers.

Final tests of aptitude

This supposes that teaching ability should also be conclusively checked during, and at the end, of general or specialised training. This would mean, of course, that training capacity would have to be sufficient to admit anyone who wanted to apply, and the training provided general enough for any candidate ultimately unwilling or unable to teach to be able to choose some other profession. Two policies are then possible:

The first consists in a dual form of recruitment for prospective primary teachers, some being trained in independent teacher training colleges, and others in universities before taking a teaching course. As will be noted below, the recruitment, for primary teaching, of persons who have specialized has been detected in a tendency to provide specialized training for future primary teachers. In the United Kingdom (England, Wales and Scotland) and in Ireland, student teachers in independent training colleges may obtain a university degree and, by qualifying in a different subject, therefore be able subsequently to give up teaching once they have acquired the necessary university credits.

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(1) During shortages the rule has been to accept any candidate with the minimum general knowledge required. In some countries a check of general basic knowledge is made by tests or competitive examinations either to maintain a certain recruitment level or because of the limited number of places available in training colleges.

The second policy offers greater flexibility in either case, and is practised in countries where primary teachers are trained by means of faculty curricula which offer a possibiluty of options (United States, some Canadian provinces).

Length of course and the balance of training components

Since the teacher's initial professional training consists of a combination of general knowledge, specialized study and pedagogics, the major argument supporting longer teacher training was a better balance between these factors.

Balance between general education and pedagogical training

When student teachers are recruited between the ages of 14 and 16 for a training course roughly the same length as that of upper general secondary education, this latter level cannot always be attained: part of the syllabus deals with (theoretical and practical) pedagogical training, making it almost impossible for the training-college student to do any specialized work other than in advanced teacher training colleges or faculties of education. Where the general instruction given by the training college has been considered as equivalent to formal secondary education (thus affording access to higher education), it has not always been possible for training in pedagogics to be as thorough as desired.

At times these two drawbacks have occurred together, and the effect of too short a period of training has been a superficial general education with a diluted introduction to pedagogics.

In most of the Member countries which are to extend or have extended the period of primary teacher training, one of the results expected is a higher level of general education. In two Mediterranean Regional Project countries - Greece and Italy - this additional knowledge (almost always bearing on what the schoolmaster will have to teach) will consist mostly of science subjects, which are to be given a larger share in the training college curricula. The longer period of general education, leading to the recruitment of student teachers after secondary school, will raise pedagogical training to a level where it can be broadened and developed. Modern education will in fact call for new methods and techniques which cannot be adequately grasped without a solid background of general knowledge.

Moreover, if routine forms of teaching age to be avoided, the teacher himself must show proof of initiative, assess the impact of his teaching, be a driving force in pilot-experiments and take part in applied research. To achieve such goals the student teacher will have to learn both how to work alone and as part of a team. However, it is only after a certain age and the acquisition of a good education that this sort of training can be given. These arguments have been advanced by those countries which have recently decided to up-grade pedagogical training to the level of higher education.

Some countries, however, consider a revision of the balance between general and pedagogical training to be insufficient for training a new type of teacher intended for primary education in which the aims have been changed by reforms to the system. They doubted whether the so-called "overall" training acquired in several subjects by schoolmasters was sufficient to encourage personal work and receptiveness to innovation.

Specialized courses for primary teachers

In view of the limited documentation available, it is difficult to summarize the situation now prevailing in OECD Member countries. Training plans do not always bring out the possibilities for specialized courses for teachers dealing with children in the 5-6-7 to 10-11-12 age group. Where possibilities do exist, it is often hard to tell whether they are simply part of the vocational training considered necessary for the future primary teacher, or whether they consist of additional courses enabling him to teach at a higher level: extended primary or short secondary course (now being increasingly integrated with the lower secondary cycle as a result of educational reform). In this latter case, specialized subjects are not usually compulsory, unless the teacher college trains both primary and secondary teachers.

Training of primary teachers in independent establishments

Specialized courses during the training of student teachers are possible in a group of countries providing training in independent establishments (for example, Germany), where the primary teacher training syllabus includes an intensive course for an optional subject to be taught in primary school. In Sweden teachers training for the intermediate section of the comprehensive school will be able to choose one optional subject from a fairly wide range. As the present reform aims at stimulating individual activity on the part of the student, it was felt that the teacher should himself gave experience of the methods designed to foster these qualities.

In addition to this specific objective, there is a second one encountered in another group of countries: the possibility, thanks to the beginnings of specialization of teaching at a higher level. In Germany, two special subjects may in some cases be an advantage at the further examination required for teaching in short modern secondary schools, (Mittelschule). In Sweden, the teacher training reform specified that, although primary teacher training is intended for a particular level, up to a certain point the teacher should be able to teach the level immediately above.

Joint training of primary and secondary teachers

In another group of countries the fact that training for teachers for both primary and general lower secondary schools takes place at the same time, means that specialized courses are also available to future primary teachers.

In Denmark it is mainly primary education which has benefited by the extension and modification to the syllabus introduced as from 1969/70 to meet the need for lower secondary teachers. Two subjects selected among those taught at primary level must be thoroughly studied by all student teachers, who also have the option of choosing a third one.

A specialized department of the Teacher Training College is to be created in Iceland so as to offer a two-year course to holders of the primary teacher's certificate to allow them to specialize in one major and two other subjects.

In England and Wales, student teachers in training colleges may take one or even two subjects which they may subsequently continue, but which must be mainly intended for personal training(1). Training colleges in Scotland also offer one or two subjects of the student's choice. The recently created Bachelor of Education degree indicates the place and role it is desired that specialised courses should have.

In general, possibilities for specialization are offered in syllabuses covering at least three years beyond secondary school, and thus meet a need which is being increasingly felt by primary teachers.

In addition to its training value, a specialized subject may allow the primary teacher to continue his education and teach at a higher level either permanently or temporarily if the need arises.

3. Conclusion: Bringing Teacher Training for Primary School Teachers into Line with that for Other Categories

In most European countries, with rare exceptions (United Kingdom) until recently the initial training for teachers differed considerably according to the level at which they were to teach. Those taking a single class or age-group and teaching all subjects (usually at primary level) were trained separately from those teaching only one or two subjects to several classes (generally secondary level). The difference in training largely accounted for the lower status (wage level, working conditions, etc.) of primary teachers. Usually the latter's training is in colleges at secondary level whereas that of general secondary teachers is at university level.

The trend thus noted and which we have just described is progressively eliminating the most obvious differences between the length and level of training for the different teacher categories, and particularly between future primary and secondary teachers.

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(1) "It derives from the view, long held in the universities, that study in depth of a chosen specialism is the surest means of forming a cultivated mind." "The Training of Teachers in England and Wales", by G. Baron, The Yearbook of Education, 1963.

In several countries these two categories are already being trained in the same advanced-level establishment, the courses being more or less the same length. England and Wales, Denmark, Yugoslavia and Japan (in faculties of education) thus have common training for their future primary and lower-secondary teachers together. In the United States, and in some provinces of Canada, the responsible authorities train all teachers at universities. The increase in the number of Bachelor of Education degrees (United Kingdom) and the establishing of closer links between the independent training colleges and the university(1) is speeding up the bringing together of the two categories of teachers.

In other countries where they are not trained in the same establishment, recruitment is now at the end of secondary education. It has been noted that courses for primary teachers are longer and at a higher level, while those at the university for secondary school teachers have sometimes had to be shortened and modified under the pressure of events. In Sweden, attention is drawn to the fact that one of the objectives of the re-organisation of teacher training is to reduce the disparity between class teachers at primary level (the lower and middle sections of comprehensive school) and the specialised teachers of theoretical subjects at secondary level.

General secondary education for all teachers has already made possible a mixing process which facilitates subsequent contacts between the different categories of staff whereas, until recently, recruitment at a very young age isolated certain categories.

This trend has been speeded up by the arrangements made necessary as a result of the need for teachers over the past decade.

In order to meet the postwar population bulge and the pressure due to social demand for education, primary teachers (with or sometimes without additional training) have been assigned to secondary education. These protective measures not only had the merit in some countries of allowing the expansion in school enrolments to be absorbed without too much damage, but also indirectly encouraged structural reforms which have lowered the barriers between the various categories. New categories of teachers have sprung up able to teach such special subjects as the arts (music, drawing, etc.) or physical education at both primary and secondary level. When language-teaching experiments have been carried out in primary schools, specialists normally teaching at secondary level have been detached for the purpose. The socio-economic status of primary teachers was also shown to need revision if recruitment was to be improved, and if they were to be brought more closely into line with secondary teachers.

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(1) Studies being undertaken in France and Ireland follow a similar trend.

This bringing into line of conditions has also been influenced by the new ideas of what the teacher's role should be in a revised educational system. For most pupils primary education is no longer the end of the road. With the coming of longer compulsory education, primary and lower-secondary education - by increasingly individualizing their teaching - must both provide basic training and also bring out the pupils' aptitudes for certain subjects.

Thus, in the pupils' interest, close collaboration must be established between teachers in schools of different levels. The bringing into line with each other of what were previously different types of education may also stimulate research to make education more dynamic at all levels by changes in teaching methods. Those which have already taken place in training for secondary school teachers are based on the same principles.

CHAPTER III

TRENDS IN STANDARDS OF INITIAL TRAINING FOR GENERAL SECONDARY TEACHERS

The closer alignment of primary teacher training with that of secondary teachers has been expressed mainly in the form of an extension to the total period of education and of the recruitment of student teachers at the end of secondary school. This trend has made it possible to develop and co-ordinate the various elements of training. For those intending to teach in secondary schools, the general objectives have been largely the same (improved recruitment and more effective training); problems of length and level of training, however, were not expressed in quite the same terms. Secondly, teachers of general subjects and of the theory of technical subjects are traditionally trained at university level. When questions of the length and level of training have occurred, they were directly linked to what appears to be the major trend of the moment: the adapting of specialised courses and the closer integrating of the theoretical and practical sides of pedagogical training and of specialised courses. Differences in the level of recruitment and training for the various categories of secondary teachers still exist however. For this reason it appears preferable to discuss separately trends in the establishments of technical education.

1. Changes in the Length of Training

The effect of revised teacher training syllabuses on the length of training has varied according to the category of teacher. In many countries, two major groups are found, according to the level of establishment.

(a) The main teacher groups concerned

Most teachers with university degrees teach in general secondary schools, i.e. schools offering the so-called "long" course (for pupils in the 10-11 to 17-19 age groups), or in upper-secondary establishments (for pupils in the 15-16 to 18-19 age-groups). The lengthening of courses which has been noted for some years has not failed to affect recruitment conditions for teachers.

The teachers appointed to institutions or branches offering the so-called "short" or lower general secondary course (for pupils from 10-11-12 to 14-15-16 years old) have received advanced, generally non-university and shorter training. This training has been offered mainly to primary teacher certificate holders, but during periods of recruitment difficulties, the tendency was to drain primary education of the best teachers and assign them to the level immediately above.

Two conflicting trends thus emerged: a desire to extend the shorter forms of training and to return to a more normal training period for secondary school teachers (long course).

(b) Extension of training

Those countries which have joint training for primary and secondary teachers have lengthened their period of training whether offered in autonomous teacher training colleges, as in England, Wales and Denmark, or in the university. In Japan, lower-secondary teachers are now recruited with a Bachelor or Teaching degree (four years of university study), and in the United States, where all States require at least a Bachelor of Teaching degree, the general consensus is that a five-year course (Master's degree) is necessary. It is now estimated that 40 per cent of secondary teachers attain this level.

In countries where the short modern course is taught by staff from the primary teacher training colleges, there has also been an extension to the period of training. In France such teachers, who originally took a two-year course after obtaining the baccalauréat, will now take a three-year course. Teachers taking what is known as the "transitional and terminal practice" class will take a two-year training course. As they must have taught for five years in primary school, this means that as a student teacher, they will have had the required year of professional training in a primary teacher training college. Hence they will have three years training after the baccalauréat, instead of the one year (or at the most two) their predecessors were able to have. In Belgium, the training course qualifying students to teach in lower secondary schools is expected to go from two to three years. In the Netherlands the preliminary plans for re-organising training for the different categories of teachers indicate that what is to be known as a "third-class" certificate will be offered for teaching what amounts to a short modern course (in "MAVO" and "LAVO" schools). A four-year course, including one year of pedagogical training, will be needed to qualify for this certificate. As matters now stand, primary teachers who have had two or three years training after leaving secondary school usually take special certificates, while teaching, to qualify as teachers in what is now the equivalent of the short modern course.

As the final stage of primary education is being modified incorporated into or absorbed by lower secondary education, there is a tendency to discard the old method of issuing additional certificates to qualify primary teachers to teach at this level. The new proposals for training teachers for a particular age-group or category of pupils require an extended course at advanced level. At the same time, a number of projects aim at bringing the actual length of the course of university graduate teachers to what it should be in theory.

(c) Other proposed changes

It may seem somewhat paradoxical to raise the problem of reducing the period of initial training for a large proportion of teachers: those who will teach either in "long" general secondary or in upper secondary schools according to country. In fact, for the categories of teachers previously mentioned, a tendency was noted towards an extension in the period of training. But in some of these cases, extended university courses applied only to special subjects, and did not always correspond to changes in training due to new needs at school. Like other types of students, future teachers have found it increasingly difficult to complete their training within the normal time limits. Thus some countries, when reconsidering the duties of specialized teachers, have undertaken to revise the time required for training. The proposed reductions depend on the co-ordinating of the different components of training and tend to make this category of teacher's job more professional, and this, in the same way as a reduction in training time, encourages recruitment. Thus, in Sweden, under the current university reform, "specialized" training is available both to future teachers and to students intending to enter other professions. However, in order to reduce the time spent in the faculties, the tendency is to draw up set curricula similar to those of specialized colleges (e.g. medical, dental, civil-engineering, etc.). In the Netherlands, the interim report (April 1966) of the Commission appointed to examine new training standards recommends that the length of the course be more systematically prescribed for each type of certificate. In view of the increase in the period required to graduate noted in Dutch faculties in recent years, the adoption of these plans would shorten the total length of training. Efforts have already been made to reduce the normal time of preparation for the "Doctoraal Examen" (equivalent to a first degree) to five years. In Austria, during discussions on the reform of higher education, the authorities concerned have expressed the hope that, although maintaining the present standard of training, it will prove possible to keep advanced education (including future general secondary teachers) within the legal time-limit. This is now four years, whereas dix are actually required by the student to complete the course. A statement(1) made by the Minister of Education at the time for France pointed out that training could be improved by making better use of the time allocated to it by those taking the secondary teacher's certificate. During the present five-year course, the fourth year is in fact spent preparing a competitive examination testing the knowledge acquired by the student during the previous three years (first degree). Before being abolished recently this enabled 70 per cent of the candidates to prepare a degree in higher education at the same time and which they were able to continue during the fifth year of their pedagogical training, or the more advanced competitive recruitment examination known as the "agrégation". In Italy the Commission of Enquiry into the Status and Development of Education proposed, some years ago, that teachers in the compulsory middle school (lower secondary) be offered a specific four-year course, including one year of practice teaching. In view of the longer time now spent at the university, however, the adoption of this proposal would entail a net reduction in the period of training. Among the structural reforms included in the Development Plan for Portugal is a reduction to one year of the practice-teaching period. By separating the general part (three years) from the special part (two years) in the science degree, it is considered that the first three years should be sufficient qualification for teaching in the preparatory classes, and the longer period in the upper classes.

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(1) Le Monde, 31st March-1st April, 1968.

2. The Adjustment of Specialized Courses

Future secondary teachers traditionally read one or more subjects to develop their personality and knowledge, and to learn something of the methods of and approach to research, so as to be able to teach these subjects.

(a) Syllabuses for specialised training

The point in question here is not whether specializations should be approached in such a way as to be of direct benefit to education for, although opinions may differ, educators are agreed that surveys should be carried out concerning the content and quality of training syllabuses whenever changes are made to curricula or to teaching methods.

Changes to training curricula in the university

A survey conducted in Sweden shows that university courses were often too far removed from what was expected of the teacher in the classroom. Under the new rules the teacher-to-be will choose certain combinations of subjects according to the type of teaching post he would prefer. Rules of this type, in the form of precise projects, exist in various forms in other countries. In Italy, to be able to sit for the "abilitazione" and competitive recruitment examinations, the candidate may have to undertake private reading of a subject if the post he wants is a highly specialized one compared with the (cultural) content of the degree; in middle-level schools, for example, mathematics and the natural sciences are taught by the same teacher, whereas the university grants either a mathematics or a natural science degree. The candidate must therefore complete his knowledge in one or the other branch. Under a bill, which is now before Parliament, an "interfaculty" committee is to be set up in each academic district and will prepare a suitable curriculum including all the subjects the future incumbent will be required to teach. In university education an effort has also been made to offer students, after the course of common curriculum, specialisations either in teaching, research or even comprehensive teaching. In Italy it has thus been decided that, after a two-year common curriculum, mathematics and physics shall be subdivided into three branches, one of which would be oriented towards teaching. The same sort of structure is being considered for the natural sciences.

In France the recent reform of higher education in the arts and sciences allows the student, after a two-year general course, to take either the first teaching degree (a one-year course followed by a year of pedagogical training) entitling him to teach in secondary schools, or the master's degree "maîtrise" (two years) allowing him subsequently to take up research or to sit for the higher competitive recruitment teachers' examination ("agrégation").

These few examples show that the educational authorities are not unaware of the consequences of higher university education being somewhat isolated in relation to the real training needs for teaching at secondary level. The same criticism cannot be made in respect of some of the autonomous teachers' colleges, where the syllabus tends to be closely in line with what the student will ultimately be teaching. However, in the latter, lack of contact with university education may prevent any really solid grounding in the methods and in the approach to research in a specialized discipline (or disciplines).

Training in teachers' colleges and contacts with university education

Almost all student teachers preparing for primary or lower secondary education are trained either jointly or separately, in independent teachers' colleges. Whichever direction the trend has taken, increasing importance is seen to be attached to university type training.

In England, Wales and Scotland, the growth in the number of Bachelor of Education degrees is associating the teacher training colleges more closely with the universities, where the student teacher takes a number of specialized courses. In France the new curriculum for those who will teach the short modern course requires the student to enrol in the university to attend courses and specialize in certain subjects selected from the first two years of the university curriculum. It will be remembered that in the German-speaking cantons of Switzerland, primary school teachers are usually trained in institutions attached to the university. In Germany, students who plan to teach in the middle schools (Mittelschulen) may take a three-year university course to sit for the first State examination (this specialized training is followed by a course in pedagogics). In some countries, where educational reforms have standardized the lower secondary school, a similar trend is noted. Thus in Sweden the recent transitional period has been marked by the assignment to this level of university-trained teachers and of primary teachers (appointed to the intermediate department of the comprehensive school) who have received supplementary training. Under the teacher training reform, all those who are to teach in the upper section of the comprehensive schools (corresponding to lower secondary) are to be university trained. Allowing for the structural differences in their educational systems, this has long been the pattern adopted in Japan, the United States and many Canadian provinces. In line with a new curriculum, middle-school teachers in Italy will continue to be trained in the universities.

Recruitment problems, however, may slow down this trend in some countries. University courses are still long, the failure rate is sometimes high, and teachers holding the primary teaching certificate may not always be accepted by all universities. In the independent teacher training colleges - training staff who will teach mainly in primary or an equivalent level, as in Turkey or Yugoslavia - the course is shorter (two or three years), the failure rate fairly low considering the smaller number of staff and qualified primary teachers (at secondary level) are allowed to enrol. Even so, these few examples show that there is a strong feeling that future secondary teachers should be given the opportunity of experiencing university study and training methods where this is not yet provided. Some countries have even assigned all the specialized training of these teachers to the universities, but in a different form. Whether the training is provided by a teacher training college or university, there is a general tendency for two specializations to be taught.

(b) Growth of dual specialization

Efficient teacher use and pedagogical requirements

The question of dual specialization for teachers acquired importance when compulsory education was extended and schools for the 11-12 to 15-16 age-groups became geographically dispersed. Some flexibility of teacher utilization was required in the smaller schools, and in many countries the recruitment of large numbers of narrowly specialized teachers became increasingly difficult. For more strictly educational reasons, it is considered that children who have just left primary school, where they have had one teacher for all subjects, should not suddenly have to cope with a number of very narrowly specialized teachers. In Denmark the new training college syllabuses (for primary and lower-secondary teachers) requires the student teacher to select at least two specializations with the option of a third. In France, future teachers for short modern secondary schools must now enrol for the first two years of the university course offering combinations of specific subjects. In Germany, teachers in the Mittelschule are offered specialized training in two subjects. In Switzerland, institutes attached to the university in the German-speaking cantons offer two courses of specialized training to student teachers: a history-languages or mathematics science combination. In Italy middle-school teachers (lower-secondary) are to be trained in one of three groups of subjects: literature; foreign languages; or mathematics and natural-science subjects. In Sweden the Commission for the Reform of Teacher Training has recommended that future teachers in the upper section of the comprehensive school (lower secondary level) take courses at the university in three subjects. In the Netherlands the preliminary teacher training reform plan submitted to the Minister in 1966 proposed that each student teacher be required to prepare two certificates (one for each subject), one to be known as a "third-class" certificate. Since the three classes of certificate correspond to different educational levels, teachers can more easily receive full-time assignments, particularly in the schools which, as a result of the reform, will become comprehensive.

Broadening the teacher's range

Another argument put forward by the Netherlands reform plan in favour of dual specialization is that it will broaden the teacher's range. The advantage of dual specialization for general secondary teachers is that they would thus avoid the risk of being completely ignorant of other subjects which might happen with a single specialization. A French Minister of Education(1) has stated that dual specialization for teachers of the short modern course would thus "be protected from the temptation of the cult of a discipline". With this in mind, the expansion of dual specialization for secondary teachers would no longer be restricted to those teaching at lower-secondary level. Under some training systems, students take examinations in so-called "major" and "subsidiary" subjects. In the light of current information, however, it is difficult to say whether the student will be called upon to teach one or several subjects, regardless of the time he may have spent on each. It has been seen that dual specialization, as recommended by the Netherlands, applied to all teachers whatever the level of their training. In Sweden the Teacher Training Committee recommended that training for specialized teachers in upper secondary education be such as to allow them to teach in two major subjects.

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(1) Mr. A. Peyrefitte, Le Monde, 31st March-1st April, 1968.

The authorities concerned take every care to see that any changes in the specialized training courses do not prevent subsequent access to other occupations. On the strength of their initial training, those teachers who so desire should be able to change over to other professions. If a similar approach were to be used in training specialists in other professions, those who so cared would be able to enter the teaching profession after necessary additional training. Such exchanges would foster an understanding between education and the other social sectors.

3. The Extension of and Improvement to Pedagogical Training

For many years, teachers in secondary education, unlike their colleagues at primary level, have only rarely received pedagogical training. This is true chiefly for specialized teachers taking what is known as the "long" secondary course, those destined for the "short modern" course, however, were almost invariably trained in independent teachers' colleges (sometimes along with future primary teachers) and usually received a fairly thorough training in pedagogics.

(a) Weakness of pedagogical training

The legislation in some countries allows university graduates and those holding a doctor's degree to teach in traditional education without a thorough pedagogical training. As their pupils shared the same cultural values, in the past, this lack of training did not create any serious difficulty. No major problem due to inadequate pedagogical training was noted until the increase in the number of pupils from different social background occurred; in some academic circles the belief still persists that such training is unnecessary for teachers in secondary and higher education. Some university professors have moreover refused to consider the university, in the strict sense of the term, as directly responsible for any form of vocational training, including that of future secondary teachers.

The aim of teacher training has often been to produce "experts", in one (or two) subject , whose knowledge often goes far beyond what is considered necessary for him to be master of his subject or to be fully aware of his possibilities.

This positive aspect (a strengthening of the teacher's feeling of security) has generally been possible only to the detriment of a more thorough theoretical and practical study of the learning process, or of the actual teaching of his specialized subject.

Many countries, however, have pedagogical training courses in their university curriculum available to future teachers either during their final years of specialization or subsequently, usually during the period of practice teaching. Since the 1950's, efforts have mainly concentrated on practical teacher training given outside the university. In Austria, for example, it is considered that "general secondary teachers probably have less educational theory than primary teachers, but their practical training is very good". In France, a Minister of Education(1) has stated that "the period of practical training, however much it may have been criticized, has rendered invaluable service". This period does not, however, provide adequate pedagogical training. Between the theory and the practice the means are lacking which are required to conver the pupil into the teacher, to transform, say, French literature or mathematics as taught in the university for a degree, into French or mathematics as taught in the first or fifth year of secondary school ..."

In Sweden the Teacher Training Committee made a similar observation, i.e. that the separation between specialized theoretical training and pedagogical training was felt to be a definite handicap. It was feared, particularly in the practice-teaching period under teachers acting as pedagogical instructors, that the latter might not always be receptive to innovations. They themselves are teaching without keeping up to date with the progress made in teacher training or with research and development activities throughout the whole of education. Some specialists are afraid that the old teaching methods might be handed down because pedagogical research is not very advanced, because the channels for its dissemination work inefficiently, or because the instructors have neither the opportunity nor the means to take the further training from which they should be the first to benefit. Recent progress has been made by establishing pedagogical training facilities and by making attendance at courses compulsory and by thoroughly overhauling this third phase of teacher training.

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(1) Le Monde, 31st March-1st April, 1968.

(b) New proposals for the extension of pedagogical training

In Italy, the Commission of Enquiry into the Status and Development of Education pointed out that the training curricula for teachers-to-be made no provision for any real instruction in pedagogics.

The Commission's final report (dated 24th July, 1963) suggested that a one- or two-year course in pedagogics be created, to follow the four-year first degree course, for all categories of secondary teacher. This would include a period of supervised practice teaching, followed by an examination along the same lines and having the same value as that of the proficiency certificate. Recruitment difficulties have prevented the authorities from acting immediately on this proposal. In the "General Policy" of the Fifth School Plan, however, the Minister of Education recognizes the need to supplement the university courses by training in pedagogics and information on the structure of secondary education. "Interfaculty committees" are therefore to institute a course in pedagogics and school legislation, followed by an examination to be taken by all candidates for the teaching degree after they have had supervised teaching practice in a middle-level school.

In a report to the OECD on education in Greece, Mr. Lionel Elvin, Director of the London University Institute of Education, recommended in 1962 that pedagogical training he introduced for future teachers. After investigating the present situation, another consultant, Mr. William B. Tudhope, reiterated this recommendation(1), noting that student teachers had no real opportunity to confront the theory and practice of pedagogics.

In England and Wales, where one year of teacher training may be taken by university graduates, there is no obligation for them to obtain this qualification in order to teach. The official policy is to encourage graduates who intend to teach to take this year of training, and it is expected that this will become compulsory, although no date has been set. In France, many voices have been raised in favour of real teacher training for "agrégés", who had teaching instruction in a school for only one month, but which has recently been abolished. While awaiting the general revision of training, "agrégé" teachers have similar practice teaching to that of certificated teachers.

These are isolated examples, and in almost all countries pedagogical training does exist. Structural changes in secondary education however - both the cause and consequence of the increase in enrolments from widely varying backgrounds - call for new thinking on the role and place of pedagogical training.

(c) Changes in pedagogical training

In Yugoslavia, where some 20 per cent of the syllabus in the arts and science faculties is devoted to the pedagogical aspects of teacher training, it is considered that much still remains to be done. These faculties have already made serious efforts in stressing teaching methods and techniques and the psychological aspects of education. In Belgium there is some thought of lengthening the period of training for secondary teachers so as better to integrate the various components. The interim report of the Netherlands Reform Commission suggests that, regardless of the class of specialization certificate obtained, intending teachers be required to take a one-year, more systematic teacher training course than the present one (three to six-month practice teaching in a secondary school, plus evidence of adequate didactic and pedagogical training). In Switzerland problems of teacher-training are being discussed and reforms are taking place; for example, at the universities of Lausanne and Geneva, courses in pedagogics have been introduced following the first degree and integrating theory with periods of practice teaching. At Lausanne, training lasts one year, and includes courses in theory, seminars on special teaching methods (one semester) and practice teaching (ten to twelve hours a week). In Geneva the course is spread over two years; it consists of a training course in the strict sense of the word, and of paid service in temporary posts, particularly during the second year, far more training in methodology and pedagogics being taught in the first year. Training instructors supervise the practical work and training inspectors the teaching periods during the second year.

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(1) The Further Education and Training of Teachers in Greece. Consultant's Report by William B. Tudhope, OECD, Paris, 12th March, 1968, (mimeographed).

In Sweden the Committee has proposed that in teacher training not only should "theory and practice" be better integrated, but that specialized theoretical courses and practical training should be closely co-ordinated throughout the entire curriculum. Therefore, during the first year of (university) training, an introductory course in pedagogics should be given explaining the aims of the training curriculum and the role of the teacher in modern society. Throughout three years of specialized training the future teacher should note the way in which the classes are held and should attend seminars in pedagogics. His final year should be spent at a teacher's college where his pedagogical training would continue and he would then teach in schools under the supervision of educational advisers.

In view of the experience now acquired in teacher training, particularly during periods of practice teaching, the old methods are apparently undergoing a process of development and change and do not always manage to adapt themselves. This is stressed, for France, by the Minister for Education in the statement mentioned above. Speaking of the revival of the one-year theoretical and practical course in pedagogics, he thus claims that "the District

Training Centre(1) Courses" can still be taken as a model for practical training. But revival implies that "training for the trainers" be considered. In Sweden the Teacher Training Committee has recommended that the educational advisers guiding and counselling student teachers during their practice teaching should have the qualifications and attitude corresponding to the new training goals. The Committee has therefore suggested that a special training course be introduced for educational advisers attached to teacher training colleges.

Changes which have affected teacher training standards in specialized subjects (e.g. art, physical education, manual training, domestic science) have not been dealt with in this paper. Training in these subjects still differs widely and the limited data now available make any common trend difficult to detect. These subjects are, however, an increasingly important part of the school curriculum, either because they are a basic medium of expression and of human communication, and an expression of aptitudes or because they are a better preparation for pupils to enter a world in which leisure will have an increasingly important place. It is therefore to be expected that in the near future this type of training will receive the same consideration as that offered to other teachers.

(d) General Principles

In all, there is apparently a growing awareness of the effects some teacher training shortcomings may have on the attitude and work of teachers faced with the new strata of pupils. In many countries possible reforms are being discussed by those concerned. A few general principles have emerged:

- No one should teach who has not had training in pedagogics;

- The theoretical and practical aspects of training should be so integrated that theory and practice can be constantly confronted with each other;

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(1) Centres pédagogiques régionaux.

- Training in pedagogics must be co-ordinated with specialized training and the latter must correspond to the range of subjects required by the school. Pedagogics is, in fact, a thorough study of the learning process and is a fundamental requirement in the preparation of teachers with an open mind towards innovations.

- The various establishments responsible for training (the university, including pedagogical research centres; teacher training colleges and practice teaching schools) should accordingly work in close touch with each other.

CHAPTER IV

TRENDS IN THE STANDARDS OF INITIAL VOCATIONAL TRAINING FOR TEACHERS IN TECHNICAL EDUCATION

If, in spite of the cultural traditions peculiar to each country, the trend in training standards of primary and secondary teachers appears to be very similar, this is not quite true for secondary technical education.

1. Specific Character of Technical Education and the Mixed Nature of Teaching Staff

In many educational systems technical training has for some time developed independently, and only recently has it found its place - generally at upper secondary level. For various reasons the staff recruited remained very mixed.

- To meet the economy's requirements, highly specialized forms of training were set up; competition from private industry however did not always allow the recruitment of teachers with long professional experience.

- The relative independence of technical education made the recruitment of a wider variety of teachers possible.

- The pupils' educational level - generally end of primary school - has to be raised.

Very different types of training are offered: technical secondary schools train technicians who have access to higher education, while vocational schools train skilled workers. Schools for girls also exist offering training in industrial, commercial or domestic economy subjects.

Finally, the actual organisation of the various branches of technical education calls for different types of teaching staff. Some teachers take general subjects, others technical theory, and still others practical technical subjects. In technical schools comparable to upper secondary schools, however, general subjects are taught by specialised teachers, while in vocational schools they are often taught by one person. Moreover, the theoretical side of technical education may not always be kept separate from the practical side.

In view of the very different methods of recruitment and training, it is not possible to lay down any general rule for future development applicable to all cases. As in other teacher categories, however, the trend is towards a better balance of training components. Compared with the training of the specialized or non-specialized teacher of general subjects, that of the technical teacher must not include only a certain amount of general education, a specialisation and an introduction to pedagogic but also professional experience. It has not always been possible to meet all these requirements in spite of the many changes introduced during the past fifteen years. In fact, not only recruitment difficulties but also training conditions have slowed down the attaining of such minimum standards as those set by UNESCO and ILO in 1962(1). Generally speaking, one or more parts of training do not seem to have been sufficiently covered, or were even omitted entirely particularly in technical subjects (theoretical or practical). It is therefore preferable to deal separately with teachers of general subjects.

2. Teachers of General Subjects: Types of Training Received

Teachers of general subjects in technical schools almost invariably receive similar training to that of the ordinary class teacher or specialized teachers in primary and general secondary education. They may consist of people who have already taught in general schools or of those who have recently graduated from a teachers' college or university. As a rule the former category has had full teacher training and will probably require no more than an introduction to the special aspects of technical education. In recent years many institutions have had to call on the services of young graduates. When these are chosen from among teacher training certificate holders, they will already have had a general introduction to pedagogics, but this is not always true of university graduates(1).

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(1) Technical and Vocational Education and Training, Paris and Geneva, 1962.

(a) Some national examples

In Switzerland future full-time teachers of general subjects in trade and vocational schools thus take a one-year course. This includes specialized training in the subjects concerned, workshop instruction, training in industrial firms and a pedagogical course under an experienced teacher. The course is taken by primary and secondary teachers or by university graduates. Recruitment problems are so acute, however, that such a long period of training is not always possible and one- or two-week introductory courses to vocational teaching are arranged.

In France training for specialized teachers of general subjects in the technical secondary schools consists of a four-year course of specialized and pedagogical subjects (leading to a first-degree and possibly to the "agrégation") at the Higher Technical Teacher Training Institute (Ecole Normale Supérieure d'Enseignement Technique). Owing to recruitment difficulties, other teachers are engaged on the basis of standards applied to teacher in classical and modern lycées. In the technical (vocational) schools, the teachers have one year of training in a teacher training college, and are either established primary teachers at least 40 years old, or holders of the "baccalauréat" who have had one or two years of higher education. In Belgium general subjects are taught by "agrégés" qualified to teach at secondary level, i.e. their qualification is equivalent to that of teachers in general secondary education. The same is true of Luxembourg in the longer technical course: in the shorter technical course the teachers of general subjects are educated at advanced level and have from one to three years of pedagogical training. In Norway a similar certificate is required for technical as for secondary education; for vocational education, the general-subject teacher must have the same certificate as that required for primary school continuation classes or those corresponding to lower secondary education. In the Netherlands, teachers of general subjects in elementary and secondary technical schools hold the same certificate as teachers of the modern course in general secondary education (the "ULO" school). In Germany, general educational subjects in technical secondary schools (höhere Fachsulen) are taught by secondary school teachers. In Ireland the Department of Education organises a one-month course on teaching methods for candidates who are graduates or are about to sit for a university degree, and who intend to teach general subjects in technical schools. Almost all the Mediterranean Regional Project countries assign general educational subjects in technical schools to teachers with the same certificates as those of class or specialized teachers in general educational establishments.

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(1) Recruitment difficulties during the past few years have in fact also been encountered in technical education, and teachers have been employed whose basic professional training was incomplete. Existing legislation however promises a rapid return to normal standards.

The examples mentioned above show that the teaching of general subjects in technical education is usually assigned to certificated teachers whose training often takes place in common with that of their colleagues in general educational institutions.

(b) Value of training in common with teachers in general education

It may be presumed that changes in the level and content of training for teachers of general subjects in primary and general secondary education will also affect the general-subject teachers in technical schools. This may also encourage the discussions and contacts required to co-ordinate the various branches of learning which co-exist within the same educational system. In view of the variety of the types of technical education it is difficult to analyse the consequences of an extension in training for the teaching of general subjects in technical education. The trend of technical education towards a more comprehensive type of training, requiring a more thorough study of basic subjects (e.g. mathematics and physics) may also bring about a change in the training and status of teachers of general subjects, insofar as, in some countries, these subjects are also taught by teachers of technical subjects.

3. Trends in the Basic Training of Technical Teachers

It is mainly in the technical teacher category that the greatest variety of training is found. It has not always been possible, because of the diversity of recruitment, for each element of training to assume its full importance, or to achieve a harmonious whole. It is sometimes difficult to analyse the different teacher categories, since some may be responsible for theory, some for the practical subjects, or others for both. In some countries different teachers take the "technical" and "vocational" sides of training.

(a) Advantages and drawbacks of the various types of recruitment

Until quite recently two different views seem to have been taken. In several countries preference has been given to the recruitment of teachers who had already become qualified as the result of long working experience. Recruitment may therefore take place when the candidate has reached a fairly mature age, the main criterion for selection being his skill in some trade or speciality, the "general knowledge" factor being considered less essential. If training is given in this case, it consists chiefly of a course in pedagogics.

In other countries young student teachers may be offered training facilities in various types of institutions. These may be provided in a teacher training section, following the course in the vocational-training section (the student teacher obtaining his teaching certificate in the same school in which he took his original training), or in an institution of higher education, i.e. in an independent advanced teacher training college or as part of a specific university culliculum.

Recruitment from among the labour force

The level of recruitment varies considerably in those countries which consider practical working experience to be most important - and various difficulties have arisen as a result of the shortcomings in the teacher's general knowledge, or even in his specialisation.

For example, a highly skilled worker may be recruited to teach the practical side of some trade. It was noted in Italy, however, that contact between these teachers and the university graduate teachers responsible for the theoretical side were sometimes difficult owing to their very different backgrounds. Contact with teachers of general subjects may also prove difficult. The longer period of general education - introduced as a result of secondary school reforms - means that sometimes pupils have a higher level of general education than the teacher. Technical education is changing and is becoming increasingly centred on a relatively small number of basic trades in which more and more theoretical training is required. Narrow specialization is disappearing and previous distinction between the theoretical and practical aspects of education is no longer so clearly marked. Finally, rapid technological progress calls for a type of basic training which permits adaptation to change and to its consequences for education. The higher the recruitment level rises, the more easily will it be possible to face up to the new trend in technical education.

Recruitment of young student teachers

Educators have repeatedly pointed out the danger of not paying sufficient attention to another fundamental aspect of training, i.e. practical experience, in the recruitment of young student teachers who have been trained in technical teacher training colleges. In some countries, these technical teacher training colleges were introduced so as to offer a system of training more or less the same as that offered to teachers in schools with a general curriculum. In others, particularly the developing countries, these institutions have been promoted for purposes of recruitment. Since wages in industry are generally better than in education, and since industry may not always have teached a satisfactory stage of development, it was thought preferable to keep the recruitment age for student teachers fairly low. The pedagogical side of training appears to be more systematic in this type of recruitment, and this is an advantage for many of the teachers - particularly part-time - with long practical experience who have frequently been taken on without training in pedagogics, even of the briefest kind. As in general secondary education, for some years there has been a trend towards the systematic expansion of training in pedagogics. As teacher recruitment and training vary considerably from country to country, experts are agreed that it is not possible to propose general rules applicable to all. Even so, during the past few years, many countries have certainly revised their policy and have tried to remedy some of the shortcomings mentioned above by harmonizing, inside the technical training colleges, the different elements going into training.

(b) Establishment of training facilities

In a small number of countries there used not be any systematic training for teachers intending to take theoretical and practical technical subjects. In Greece, the only certificates held by 32 per cent of the teachers in technical departments and 31 per cent of those in vocational departments consist of leaving certificates from secondary school or the secondary level technical and vocational teacher training college. In 1959, a Technical and Vocational Teacher Training College at advanced non-university level was created. The establishments set up in Italy are mainly for experimental purposes. There are at present a few "pilot-training schools" for teacher-instructors (the first was created under the auspices of an agricultural vocational institute). A bill has been drawn up to introduce (in the wake of the first one mentioned above) similar training schools for instructors attached to various vocational institutes. An advanced teacher training college for technical education has also been created at the University of Pisa.

(c) Improving the standard of recruitment

A more complete general education before training

In countries which expect some categories of teachers to have had practical experience when recruited, it is possible to take a special course ending with a general education certificate equivalent to the secondary school leaving certificate, and giving admission to a vocational training establishment. Thus, in the Netherlands, the teachers of practical subjects are usually former pupils of elementary technical schools. Since the future teacher must furnish proof that his general education is sufficient, a two-year evening course is offered consisting of ten classes per week. These classes are held in elementary or higher technical schools, or in specialized institutions. The subjects taught are arithmetic, algebra, geometry, physics, mechanics, Dutch, history, English and geography. In Germany, skilled workers or other persons may attend evening or day classes for adults, to attain the skills required. These two examples show that it is apparently possible to recruit teachers from among persons with long experience on condition that their general education was originally adequate.

Level of recruitment

The differences which exist in the organisation of technical education in the various countries are very important here. Legislators are paying close attention to the training standards for teachers of practical subjects and for teachers of theory in the various trades.

Examples of recruitment at the end of secondary education

In Greece, the Technical and Vocational Teacher Training College includes one section open to those holding the "middle" level technical school certificate and one open to those holding the certificate of a school at a higher level and which itself recruited its students from among secondary school leaving certificate holders. This latter section has been open since 1964/65. The reform of secondary education includes a wide expansion of technical and vocational education so that the choice of subjects offered by the college and its curricula will be adapted and extended. The section responsible for training teachers of theory will recruit engineering technicians at advanced non-university level), whereas future teachers of practical subjects will be recruited from among pupils who have completed secondary technical or vocational school.

In Ireland, although the training for teachers of practical (manual) subjects used to be quite varied, student teachers usually held the full-time (day continuation course) vocational certificate. The new training course which opened in December 1966 for woodwork instructors required candidates to have obtained a certain percentage of marks in their secondary-school (or equivalent) leaving examination. In Germany the institutes which train vocational teachers usually require candidates to have passed the secondary school examinations which grant access to the university. In France student teachers on the theoretical side of "vocational" education are recruited from among holders of the secondary school-leaving certificate (or its equivalent) or even among holders of a diploma in engineering.

In Turkey the technical and vocational teacher training colleges recruit their students from among holders of the upper-secondary technical school leaving certificate. In Spain, the workshop supervisors in "technical" education hold a diploma from a vocational school (escuela de maestria) or the higher baccalauréat. In industrial vocational education, for the period of apprenticeship, the teacher must at least have the title of "perito" (higher level technician), and a diploma in higher education to teach in industrial vocational schools.

In Yugoslavia the Technical Teacher Training College usually recruits skilled workers who were trained in a secondary technical school for teaching practical subjects. Teachers in the schools for skilled workers are technicians, higher-level technicians or engineers. In Portugal "rural instructors" must have taken at least a secondary-level agricultural course (i.e. "middle" course) to be accepted for training. All other teachers in technical education must also have had a secondary education before starting specialised courses.

Improved standard of general education during initial training

For those teacher categories which are known to have a low standard of general education, the level of recruitment has gradually been raised and the standard of general education is often being improved during training. In Greece the two-year courses in the new technical teacher training college include general and scientific training. In Ireland the present two-year course for training teachers of practical subjects - who may be called upon to teach theory in rural districts - provides for futher general training. The new three-year woodwork training course open to holders of the secondary-school leaving certificate (or equivalent) also includes further general education. In France all "vocational" teachers (including those responsible for practical subjects) take a course of identical length, one part being devoted to general education. This higher general level makes the learning of a specialization and of pedagogics easier. No comment is required concerning the recruitment and educational level of the other categories, i.e. the teachers of technical theory, particularly in the "technological" branches. In general, after leaving secondary school, they all go on to train at the advanced technical teacher training institutes as engineers, as engineering technicians or as specialised teachers.

(d) The importance of practical experience

In countries which recruit as teachers specialists with many years in the trade behind them, the problem of practical experience does not of course arise. But where colleges enrol fairly young student teachers, some small amount of practical experience must be included in their training; this is also true for those who will be teaching technical theory. This experience can be acquired either before or during their training.

In Greece three years of practical experience are now required for admission to the new Technical and Vocational Teacher Training College. In future, engineering technicians who will take a one-year course to teach theoretical technical subjects must have had some practical experience in industry, while technicians teaching the practical side (who are trained in two years) must have had three years of job experience.

In 1963, Sweden introduced a "master of technology" degree (prepared in four years at advanced level) for those intending to teach in secondary or specialised schools (fackskola) and which requires six months compulsory experience in industry. In its recommendations, the Teacher Training Committee stressed the value of this 6-month period of experience in industry or commerce. In France, owing to competition from the private sector for specialists able to teach certain subjects in the technical lycées, a "mechanical engineering" section has been set up in Advanced Training School for Technical Education. The 4-year course in this section includes a period of one year in industry. Assistant technical teachers in the "vocational" schools must have had five years' job experience for admission to a teacher training college. In Belgium, depending on the speciality, a certain amount of job experience is required for admission to a part-time technical teacher training course. In Ireland student teachers must have served at least four years as apprentices or have had three or more years of job experience. In Germany, depending on the particular Land, from 6 to 24 months of practical experience are required; training in industry may continue throughout (or even after) the course.

These few examples show that progress has been made towards meeting the objections sometimes made concerning training which, for certain technical teacher categories, failed to include a suitable period of practical experience. When forming a part of basic training, this practical experience is not acquired once and for all, and for this group it represents one of the chief objectives of further training.

(e) Expansion of training in pedagogics

Pedagogic training has proved to be lacking or insufficient in some countries. There are many reasons for this: it is still often considered, for example, that a specialist teaching at a higher level than that of compulsory school does not need to take pedagogics.

Teacher requirements during the past ten years have forced the authorities to engage - for technical as well as for other educational sectors - teachers who have not had a full professional training. In several countries, measures are foreseen for those categories of teachers whose training was less complete than that of others.

In Italy the responsible authorities are aware that instructors need more than the necessary technical knowledge and good practical experience - they must also learn pedagogics by studying the appropriate methods and techniques of practical teaching. The pilot training schemes now being carried out are therefore to be extended.

The educational authorities in Yugoslavia have come to the conclusion that the preparation for the supplementary examination to qualify graduates of technical, economics and other faculties as teachers was not sufficient. Courses in engineering theory are therefore now being given by graduates from a specialized department of the Technical Teacher Training College. A two-year supplementary course is offered to student teachers who have already had two years of higher education. The subject-matter includes statistics, research methods and industrial education.

In Sweden, in economic and commercial subjects, candidates holding an upper secondary commercial school leaving certificate are to have a two-semester course of training. The course would provide more thorough training in the specialisation and an introduction to pedagogics. University graduates would systematically have 15 weeks of pedagogical training.

In Ireland, where a new three-year training course for woodwork instructors was started in 1966, the Ministry of Education plans to extend as soon as possible the two-year course for metalwork instructors to three years, as was done for woodwork teachers.

Thus, even in a country where initial training takes place in a full-time teacher training college and includes training in pedagogics, there is a tendency to extend it and to improve it by increasing the total length of the course.

(f) Development of contact with university education

As for future primary and general secondary teacher training, the main aim is to achieve a better balance between the different components of training. Again, as for other teacher categories, an effort is being made to put training for vocational teachers at advanced level. In some countries it is at university level, as in Germany for instance.

The raising of training standards brings about an improvement in the teacher's status, and it will be remembered that in the conclusions of the OECD seminar concerning basic training and continuing courses for vocational (or supplementary) education, the participants noted that "in the Federal Republic of Germany the fact that a high standard of requirements had been imposed for the recruitment of future teachers had increased rather than diminished the number of candidates".(1)

(g) Expected trends for training

Of recent years, it has been noted that, for the recruiting of teachers "training corresponding to at least that of a technician is becoming a normal requirement"(1). This trend is in line with the statement made by participants at the seminar mentioned above, i.e. "the level of general education should be considerably higher than that acquired by the average vocational school student" and that the teacher should possess a "broad technical education or scientific instruction corresponding to that of a higher technician in his own field of specialization".

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(1) Training of Vocational Teachers, Vol. 1, No. 1, September, 1964, CIRF Monograph.

The Working Party on Human and Physical Resources for Technical Education meeting is connection with the Training Course on Technical Education in October 1967(1) pointed out that "in general, training for technical teachers and workshop instructors in technical schools should be at least of the level immediately above that of the school in which they intend to teach". The Working Party considered that, for the training of technicians in secondary or post-secondary schools, "the teachers for theoretical subjects should be graduates of technical universities and, for practical subjects and applied technology, graduates of technical colleges (for higher-level technicians)".

The other two components of training (practical experience and introduction to pedagogics) were also discussed by the participants of these seminars. At the one dealing with the basic and further training of vocational teachers, it was agreed that teachers must have:

> "... considerable practical experience, gained by working in industry, of conditions of work, including safety measures, economics, and the organisation and practices of industrial production and maintenance operations; ...
>
> "a knowledge of the philosophy and principles of education and of general and applied pedagogy, including principles and practices of planning training programmes; of general and industrial psychology, physiology and sociology, with particular emphasis on the problems of youth at work, and of the social institutions of industry;
>
> "... advanced training in the didatic methods of teaching technical subjects, with special emphasis on methods of teaching based on experimentation ...".

The Working Party on Human and Physical Resources for Technical Education proposed that candidates,whether from industry or technical schools, be given one year of special training mainly in pedagogics and particularly in teaching methods and techniques (organisation of courses, utilization of audio-visual aids, teaching methods for practical subjects, elements of general pedagogy, etc.). Its final recommendation was the establishment in each country "of special institutions which would organise technical teacher training ...".

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(1) For countries participating in the OECD's Technical Assistance Programme, (i.e. the Mediterranean Regional Project Countries minus Italy), (mimeographed).

In general, the acts and regulations recently adopted tend gradually to reduce any wide disparities existing between teachers in technical and those in general education or among the various categories of technical teachers. This trend is in line with the attempts now being made to bring the various types of secondary-level education closer together. Some of the gaps in basic training (i.e. absence of, or insufficient, pedagogical instruction) are being bridged by means of continuing education, which seems the best way of completing basic training.

CHAPTER V

THE TREND TOWARDS CONTINUING PROFESSIONAL TRAINING

One of the difficulties any educational reform has to face occurs because its application depends on a mass of teachers - ignorant of, or hostile to, the innovations that are to be introduced - and who are prepared to teach other things, in a different way and with a different content. The setting up, in some countries, of machinery which permits the educational system to be rapidly reappraised and restructured in the light of general social development, implies that the teacher's own education must extend throughout his working life; his basic training will therefore have to be followed up by further training. Basic training should therefore, to an ever-increasing extent, help the teacher to realize the need to continue to improve his knowledge of his subject and his teaching methods and techniques. It will stress social change and its effects on the structure and content of education. The teacher will continue his training, not only to help him bring his knowledge up to date, but also to fill in any gaps left by his basic training.

1. Educational Reform and the Difficulty of Immediate Assignment for Newly Qualified Teachers

The educational system is one of its own main "production factors"; theoretically, therefore, its characteristics may be changed more easily insofar as this factor is found no longer to keep up with the system's qualitative trends. Young teachers then find they have to play an important part in spreading new ideas on the occasion of meetings, seminars and further training courses in which their older colleagues participate.

Many obstacles, however, prevent the immediate application of such a policy. Their origin lies either in the actual type of the teacher's training or in the conditions prevailing at the time of recruitment.

(a) A prerequisite: the definition of the teacher's new role

Consideration of the training system can take place only when the objectives of reform and also the style and content of teaching at various levels have been defined. Only on the basis of these facts can the role of the teacher and the content of his training be decided. Most teachers who are beginning to apply the reforms - in pilot establishments at first - are generally chosen from among the most active members of the staff in the existing system. Continuing education courses provide the additional training they need for the introduction of the reforms, and, as the latter are extended, this sort of action must be developed until such time as young teachers, trained to have the new attitude, slowly change the content of the stock of teachers. To this natural obstacle to the flow of "new blood" into the teaching profession must be added another created by institutional factors. A survey of trends in some countries shows that the thinking and policy measures in this field lag behind the time normally required for this type of decision. Apparently this is due to the way in which the reforms were made to the school system - i.e. by attacking the different levels at different times. Rare indeed have been any overall reforms to the system. Teacher training will in future depend increasingly on higher education, but the latter's traditional independence may mean that it is not always immediately affected by reforms which are in the same spirit as those in primary and secondary education and which make their application easier. Moreover, some of the reforms at primary and secondary levels have not apparently been fully carried through. For example, structural reforms have been made, but not always the changes to curricula and to teaching methods and techniques which should go with them. Until such time as the spirit and style of the content of education are radically overhauled, the consideration being given to the new system of teacher training cannot come to any final conclusions.

(b) A difficult situation: teacher recruitment

During the past ten years, the recruitment difficulties described in the first part of this report have often delayed any changes to the training system. In many instances changes have resulted in an extension to training. When an additional year is added to the period of training (if other factors remain constant) a year's supply fo new teachers is lost and if training is placed at a higher level, there is a risk, in the beginning, of a reduction in the number of teachers obtaining their certificate. Thus in England and Wales not until 1960 were the authorities able to lengthen the two-year training college course to three years. In Italy, in "Guidelines of the five-year school plan" the Minister of Education said that he could not immediately apply the recommendations of the "Commission of Inquiry into the Status and Development of Education", proposing that secondary teacher training be expended to include a thorough knowledge of pedagogics, at present not covered by the curriculum. The Minister therefore plans to adapt the curricula of the different faculties on the grounds that any extension to the length of the course might discourage teacher candidates and delay their entry into the profession. In Switzerland and Turkey changes to primary teacher training, which would mean an extension to the pediod of training, have been postponed for the same reasons.

Training institutions (including the universities) for the various teacher categories are therefore the focal point of quality and quantity. Even though transitional schemes or original forms of training have to be offered to all possible types of potential teachers in order to palliate the consequences of the changes training must undergo, the weight of applying the reform will fall on the majority of the established staff. Continuing education therefore remains the only privileged means for bringing up to date the training of teachers whose role is in the process of changing considerably. It is not always easy from the literature available to distinguish, among the mass of (almost invariably optional) activities, those that form part of further vocational training to supplement basic training, and those which consist of courses for purposes of promotion. Although the latter type may be included as part of continuing training, they should not be considered as plans to update the teacher's knowledge.

2. Present efforts: The Improvement of Incomplete Basic Training

Although of recent years many educational systems have been affected by reform, action seems to have been concentrated mainly on improving the initial basic training, rather than on continuing training as such. Because of the recruitment crises, staff with very little qualification have had to be engaged and, in technical education, conditions of recruitment vary so much that a particular component of initial training (whether general education, specialised subject, practical experience or pedagogics) may be neglected. The few examples given below show that a very substantial effort is being made concerning technical teachers.

In Austria legislation has been sufficiently flexible to allow specialists to be engaged without pedagogical training, to keep pace with the growing need for teachers. Certain categories are engaged as "contract-teachers" and, while preparing for the qualifying examination, give lessons under the guidance of regular teachers.

In Denmark, the Technical Teacher Training Institute offers a full-time 14-week course for engineers, technicians and highly skilled workers with several years' professional experience and who, in general, have already taught in technical evening classes or worked as full-time teachers. In Norway established teachers are offered either a full-time six-month course at the State Vocational Training College, or a part-time State course in pedagogics (for vocational school teachers) extending over twenty-five weeks during two summer sessions (during the semester in which the teacher gives his course, he attends week-end seminars takes correspondence courses and receives the advice of an inspector on teaching methods). In England and Wales three-month courses have been introduced for teachers in service, the syllabus being adapted to the needs of teachers who already have some experience. In Scotland, teachers in service may take a training course, consisting of a year's supervised practice teaching with a two-month session before and after full-time training. In Sweden, owing to the number of teachers recruited below the prescribed standards, full-time courses lasting thirty-three weeks are being held for new teachers, with at least three years' experience to supplement their initial training. A five-week full-time course is also provided for teachers with at least three years' teaching experience but whose pedagogical training was insufficient. Part-time training courses have also been set up. Finally, in Switzerland, "vocational" teachers who are recent recruits or have had no real teaching experience are required to take a part-time basic course in pedagogics lasting at least thirty hours.

Although such courses are rarely compulsory, most teachers are increasingly urged by the authorities to take them. Thus on Scotland, while a teaching certificate is not required to teach in continuation schools since the Central Register was set up, the authorities have decided that no teachers without this qualification could be posted unless their general knowledge and technical background were sufficient to allow them subsequently to take the training course. All teachers in continuation schools are expected to receive this training.

In some countries, further training courses may be compulsory for primary teachers if their initial training was incomplete or accelerated. In France, further training courses are compulsory for deputy teachers, and in some Swiss cantons primary teachers who had accelerated training must attend special courses. In Yugoslavia, the Republics have made supplementary training compulsory for insufficiently qualified primary and secondary school teachers. In general, those concerned attend courses during the holidays; these courses are therefore mostly part-time and by correspondence. The growth index for 1956/66 was 445 for teachers attending the two-year advanced teacher training course, 178 for those attending college or university, of which 102 took arts, 1020 science and mathematics and 2823 physical education. These figures bring out the teacher categories most affected by the recruitment crises.

If recruitment problems become less acute and all teachers are required to have full basic training, it is possible that this form of further training course will tend to decline. Continuing education, of course, will have to be used for bringing up to date the knowledge of the teacher force in service. Basic training will be no more than a first stage, and further training the normal follow-up.

3. Future Efforts: Compulsory Continuing Education

Until recently there was a general feeling that what was taught in the various types of training college was good for the whole of the teacher's career. However, as a result of changes in the educational system and of reforms which failed to live up to expectations, the problem of further training has become acute. If basic training and further training are the two parts of a whole which provide the teacher with what he required to practise his profession, then the logical conclusion is that the latter should also be compulsory. The development that is expected in human and mechanical teaching aids will help towards greater efficiency in education and leave the teacher more time to bring his knowledge up to date. The length of these supplementary courses will vary according to the category of teacher concerned. The putting into practice of this requirement should be regarded as a possibility to make the most flexible use of any action taken, whether originating from teachers and their organisations, or from the responsible authorities.

In some countries the regulations usually require primary teachers to attend annual conferences or seminars to keep them informed of the progress made in teaching methods and subject-matter. Usually these are very brief, however, and take the form of "one-day schools" (for example, during the school year in Sweden) or of "annual teachers' conferences" (France and Belgium). In most of the other countries numerous forms of "further education" are provided for primary teachers but are not compulsory.

In some Swiss cantons young primary teachers are required to take refresher courses during the first five to ten years of their career.

In secondary education compulsory further training is even more infrequent than for primary teachers. In Sweden, however, the local authorities may decide to suspend classes in general secondary education to allow teachers to attend a compulsory five-day school each year. Although the General Education Act of 1958 in Yugoslavia made further training compulsory, some of the republics have not yet drawn up their own regulations; under existing legislation however the school authorities do have control over new teachers entering the profession for the first time, but in the main this concerns basic training.

In secondary technical education in Switzerland, the new federal act on vocational training states in Article 27 that "the cantons may make it compulsory for teachers to attend refresher courses." In Denmark, the Ministry of Education has introduced a system to allow every full-time teacher to take a compulsory one-week course each year; the first year consists of further pedagogical training, and the second of a refresher course to bring technical knowledge up to date. In Hamburg, Germany, after three or four years in the profession, teachers spend three months in industry.

Some countries thus appear to be setting up systematic further training courses in addition to those in which the teacher himself decides whether he will participate. These latter are, in fact, attended by only a small percentage of the teaching profession, and are unlikely to modify reactions, attitudes or knowledge no longer in line with what reform and technological change call for.

4. Planning Further Training

As shown above, the small amount of research carried out does not allow the relative importance of the two complementary (basic and continuing) periods of training to be determined. The characteristics of the different types of teachers determine the main ties between initial and further training. In view of the financial resources available, staffing problems and opportunities for secondment, a virtual "strategy" of further training must be worked out based on a thorough knowledge of the qualitative data concerning the profession. Regular surveys should give information concerning the qualifications initially acquired, according to level and subject and indicating the extent and type of any refresher courses already attended. Other data, such as age of teachers, location and type of post (e.g. head of department) etc., should make it possible to orient the content of, and teaching methods used in, further training, in view of the educational system's needs. As initial and further training become increasingly complementary to each other, the content of the latter would largely follow along the broad lines described in Chapter I of Part Three. The courses selected would however depend on the subjects to be brought up to date.

Thus, as proposed in Italy(1), it will have to be decided whether it is better to organise courses on subjects likely to influence the behaviour of teachers by showing the part they should play in a constantly changing society, or on didactic and pedagogical questions, or again on problems associated with the specialized training of the teacher.

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(1) Review of National Policies for Education: Italy, OECD, 1969.

The responsible authorities consider that "the experience so far acquired shows that systematic action can effectively be planned for the future, particularly in view of the large appropriations allotted for the purpose under the five year school development plan." This conception of a continuing education plan has also been adopted in Sweden by the National Board of Education. Training courses will thus be held more frequently outside term time, and it is hoped that five years from now all teachers will be able to attend such a course once every four years. Since the bringing up to date of knowledge can no longer be carried out on a small scale, far more extensive facilities will have to be provided, for far longer periods, which will require detailed planning.

5. The Role of Inspectors as Educational Counsellors

Further teacher training is not provided solely in specialised centres or, for technical teachers, in the form of training courses in industrial or commercial firms. It is now expanding in schools; it affects teachers either individually or in groups; educational counsellors are able to give it their support. If basic and further professional training are to be properly harmonized, then refresher courses on specific subjects outside the school should be held by the institutions which provide some or all of the basic training. The Teacher Training Committee in Sweden insists that refresher courses should be an integral part of the work of the new specialized colleges of education. As training institutions are to do more and more applied research and are to keep in close touch with educational research centres, constant contact with research findings would be assured if part of further education were to be offered in these centres. If sabbatical leave were to be extended for some teachers, it could more easily be devoted to research. Even the inspectors - who will be called upon far more frequently to act as educational counsellors - will be able to keep up to date in these institutions the knowledge they need to help the teachers.

The inspector's task is not simply to act as educational counsellor, neither has he yet become a means for introducing innovations among the staff. In many countries the administrative aspect of his task remains essential: it is the inspector who reports on the teacher, comments on his teaching and on the pupils' reactions, and drafts various administrative decisions for the Ministry. But his duties should not stop short here. His authority and experience (the reasons for his appointment) fit him to offer educational counsel to young teachers and, in view of the rapid advance in teaching methods and techniques his role might also be decisive for their older colleagues. Education, in changing its dimension, has almost changed its character. To a far greater extent than before, the inspector must now see that the teacher keeps up to date with the latest educational developments; he must push innovation where it is not yet known and help the teacher make better use of it.

If further education is to become compulsory by law, inspectors will have to pay far more attention to finding out the shortcomings of initial training, or what additional training is required as a result of the progress made in teaching methods and techniques or in a given subject. He can become one of the chief "decision-makers" of further training syllabuses, just as he is already one of the Chief Group-leaders.

Thus in England and Wales the inspectorate has taken a step forward by stressing its role as a "bearer of innovations". Inspectors encourage teachers to use all the new educational aids (closed circuit television, tape recorders, language laboratories, films, etc.) by discussing them in schools and at conferences, by organising short courses, by serving on panels of experts, and by writing pamphlets for publication by the Department of Education.

As was necessary for teachers, some of their routine administrative duties may have to be reduced. In Sweden a corps of mobile consultants has been set up to advise teachers during the school year. They may also help in organising voluntary or compulsory further training courses during term-time. This is an interesting experiment, for they retain their contact with teaching by spending only half their time as consultants and the other half on their own education. They are also kept informed of progress made in pedagogics for, after their basic training, they are required to attend further training courses twice a year. In 1966 they numbered 170, a figure which the National Board of Education plans to increase substantially.

The experiment is also interesting since it was considered that the increase in the number of inspectors would drain the teaching staff of its best elements; by staying half time in teaching, these very active members of the profession who have been selected to advise their fellows do not lose touch with teaching altogether.

Only a few organisational aspects of further education in the near future have been discussed. Administrative patterns, details of form and organisation, the frequency and regularity of courses, methods of financing them, the advantages accruing to teachers, etc. will depend on the strategy developed by each country according to its own structure and requirements. The new teaching methods and techniques which are now gradually being introduced into basic and further professional training will themselves change the way in which the courses are organised. The working groups of student and acting teachers no longer attend the seminar simply as passive listeners. Each has positive or negative factors to contribute from his own experience, and is encouraged by the "discussion leaders" to talk about his teaching achievements and difficulties. The new technical aids also tend to alter the pattern of training courses. Audio-visual aids(1) in particular open up new opportunities, both in the training colleges and in the schools. Further training for the teaching profession will thus be a major task in coming years. The new forms it will take have yet to be tested. Research on content, in view of what was covered by the basic training, is still required before the challenge of ever-changing educational patterns can be met.

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(1) See The Contribution of Audio-Visual Media to Teacher Training, Council of Europe, 1964.

GENERAL CONCLUSIONS

FRAMEWORK OF RECRUITMENT POLICY FOR TEACHING STAFF

Balancing teacher supply and demand at the different levels of education presupposes a consistent dovetailing of teacher recruitment, deployment and training policies. The formulation and application of such policies is inseparable from the planning and development of the entire educational system. The particular aspect of the problem of the teacher qualifications required further binds the quantitative to the qualitative aspects of planning and requires a more systematic policy of educational research and development. Finally, the fundamental role of teachers cannot be presumed to become fully effective unless teachers are regularly consulted not only on problems of direct concern to them but also on those affecting the general operation of the school system, which is their particular area of endeavour.

(a) Educational planning

To reconcile targets with means is particularly needed in order to balance the supply of teachers with the demand. Since teachers are trained within the education system itself, it is possible when forecasting demand to train the required numbers of graduate teachers. This cannot be done independently from more comprehensive forecasts regarding the educational system's growth. Since growth of the system moreover cannot be dissociated from other sectors of the national environment, forecasting should gradually be made a part of studies covering all sectors of activity. The plan finally decided upon can then develop the resources, particularly such human resources as teachers, that can be made available for education.

Two types of policy can be used to meet the quantitative and qualitative demand for teachers - short or medium-term measures and long-term measures. The former generally relate to wage policy, recruitment and assignment standards, accelerated training and continued education, conditions of teacher utilisation or the effectiveness of training institutes. Whatever the urgency of the problems, how effective the measures will prove to be seems to depend on how closely the various aspects of policy can be co-ordinated.

Policy-makers for the teaching profession have sometimes been shown to act along separate lines. As the teacher problem has many facets, to handle it in separate administrative units, some dealing with quantitative and others with qualitative aspects of recruitment standards or socio-economic status, is to deny the inter-dependence of all questions which concern the profession. Since the job of various policy-making bodies (Ministry of Education, Ministry of Labour, Ministry of Finance, Planning Authority, etc.) is to deal with one or more aspects; a standing "joint group for education" might perhaps enable relevant measures to be better co-ordinated.

(b) Research and development in education

Balanced growth of the educational system, in the light of economic and social trends, seems unlikely to be achieved unless the educational system is ceaselessly readjusted. The school will however be incapable of adjusting to the changing needs of society until detailed studies of performance and lethods of operation are undertaken. Unlike the pattern which earlier had currency in various countries, education no longer belongs to a separate world of its own, but as in other sectors of society greater efficiency means that more research is required.

Nor must the results of research, which in a purely pedagogical context have chalked up a few gains in some countries, be allowed to remain idle. Not only must an effort be made to test the initial findings, but also to create channels for their dissemination so that education can benefit to a greater extent.

The role of the teacher in introducing innovations is an active one. If his help is not obtained, a good many projects of a seemingly constructive kind may well fail to succeed or be diverted from their goal. This increasingly implies that during his early and continued training the teacher, owing to his constantly wider general knowledge should be in touch with research activities. The initial expense for equipping training institutes for a hitherto somewhat neglected task will seem less burdensome when the student or graduate-teacher will have shown that his interest in research has been beneficial both for the teacher, by fostering his spirit of initiative and enthusiasm, and for the educational system, whose efficiency and output will have been increased.

(c) Machinery for consulting teachers

The interest shown by teachers in innovations does not merely depend on how they have been brought into contact with them while being trained. The teacher cannot be made aware of his basic role in developing education at national and local scale unless he is closely associated with the formulation of recruitment policy, of plans to upgrade his status, and of measures regarding the structure and content of education. It would thus be well for teachers to be represented in the "joint group for education" suggested under (a) or in the various commissions which plan educational development. Knowledge and discussion of the measures which will directly affect them suggest that teachers should also be associated with various projects for reform. Hence the evidence is that an effective teacher policy cannot be formulated apart from the measures which will promote the development of other component parts of the educational machinery.

(d) Managing the educational system

To improve teacher training in the context of an educational system which is prepared to introduce or accept innovations and translate them into fact is not enough in itself, and considerable efforts are needed on the administrative side, taken in its broadest sense. First to be mentioned are the teacher's immediate entourage, responsible for his rational deployment and for providing him with pedagogical or administrative support, such as headmasters and inspectors. But for an innovation to be really accepted and make its mark, the appointed or elected members of the different boards and other organisations responsible for schools at local and national level must be prevailed upon to make the educational sector a dynamic, pioneering asset of the community, since it is on these authorities that its progress so largely depends. So far training the managers of the system is an aspect which appears to have been neglected. While the cost and effort of developing and educational system makes it essential that steps be taken in this direction, the forward-looking teacher moreover must be able to rely on these various types of managerial staff for support and encouragement.

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